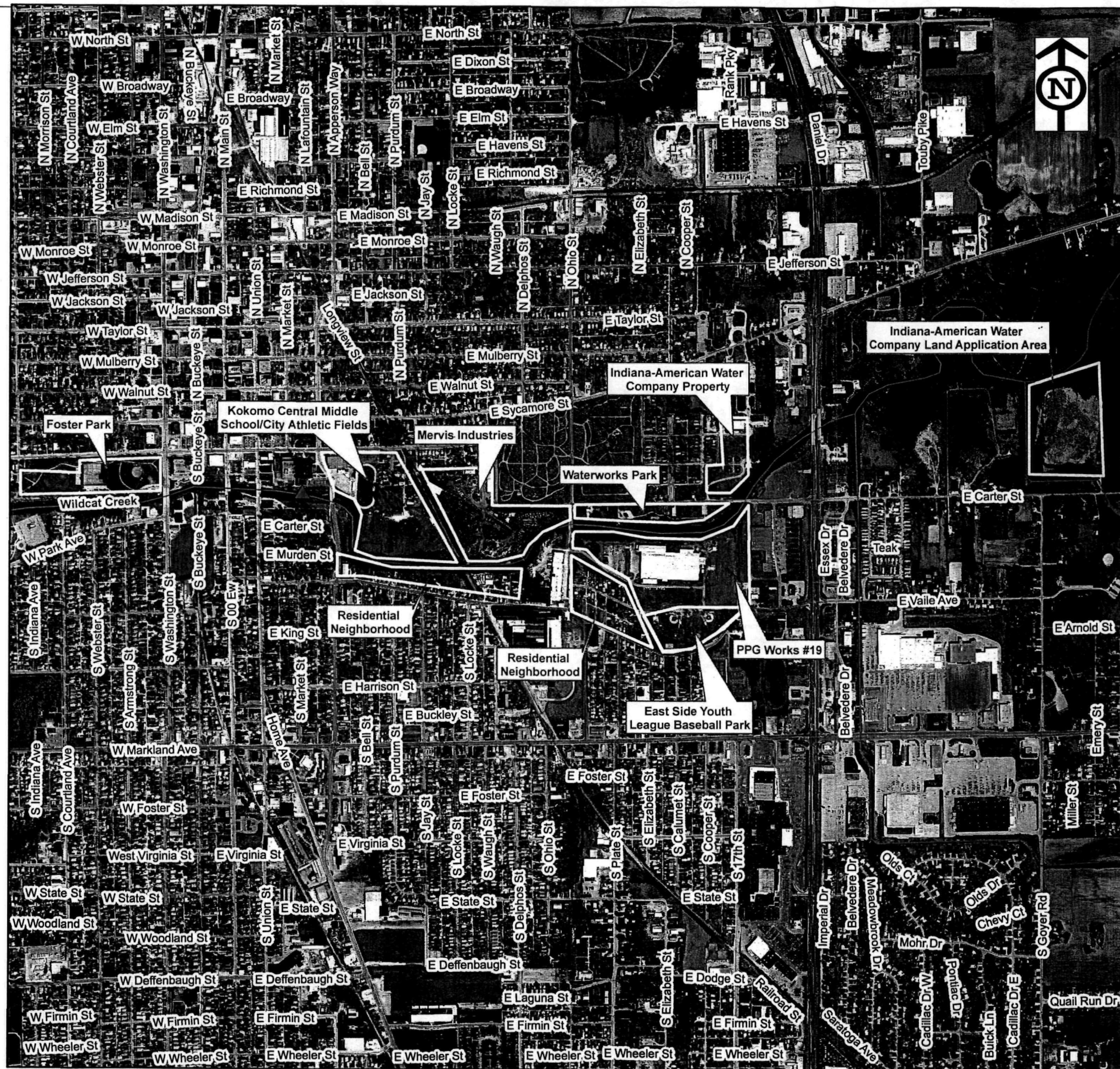


**435325**



Lake County, IN





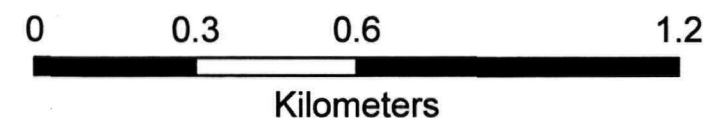
**IDEM**  
INDIANA DEPARTMENT OF  
ENVIRONMENTAL MANAGEMENT

# Wildcat Creek Sediment Site INSFN0507812

Kokomo, Howard County,  
Indiana  
Site Location Map

Area of Concern

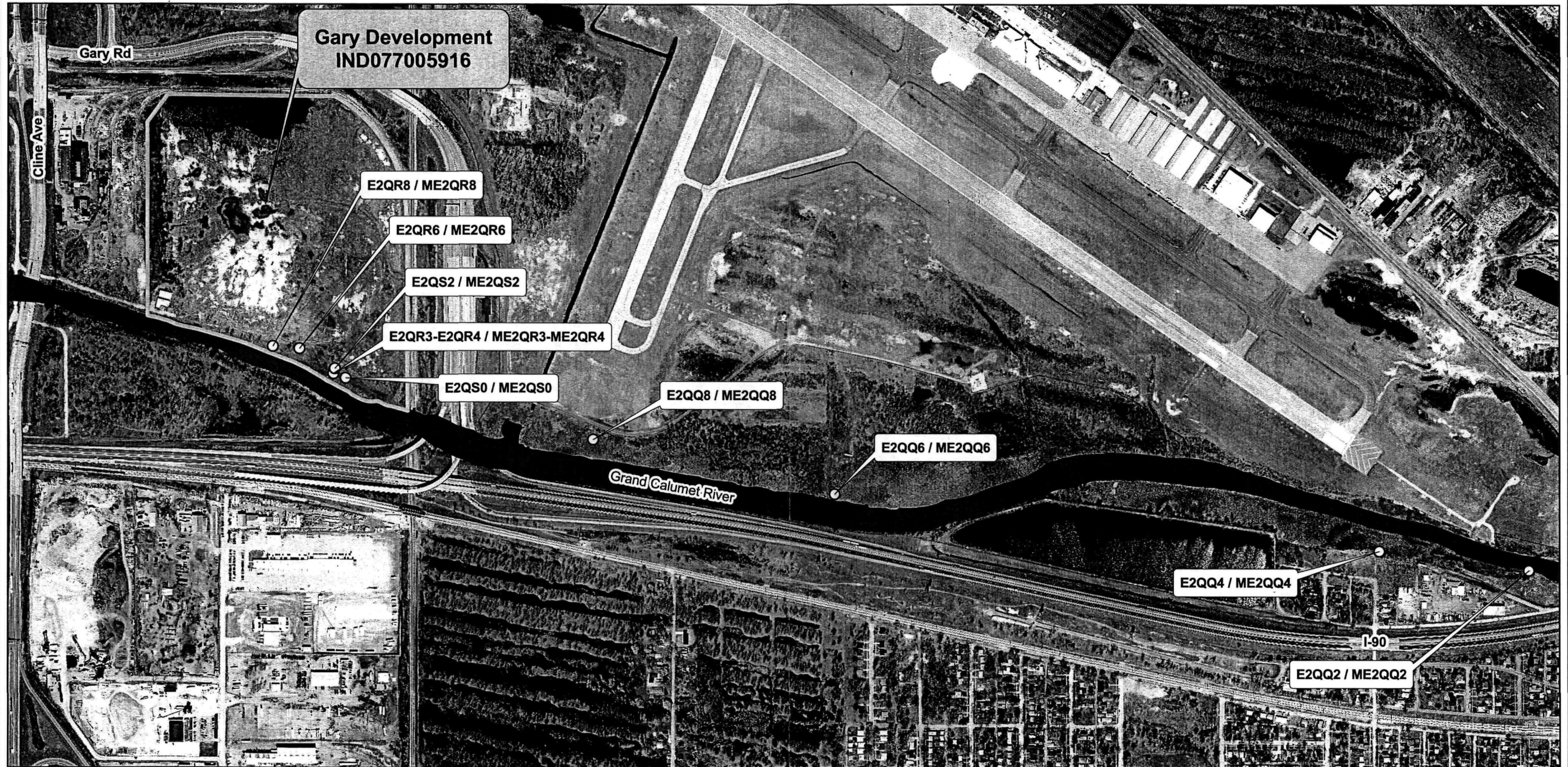
▲—▲ Approximate Extent of Creek  
Length to be Investigated



This map does not represent a legal document.  
It is intended to serve as an aid in graphic  
representation only. Information shown on this  
map is not warranted for accuracy.



# Deep Sediment Sample Locations, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)

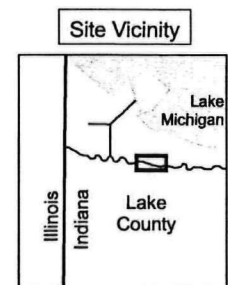
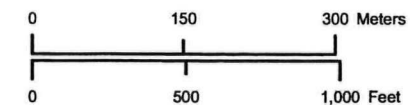


**Sources:**  
**Non Orthophotography Data**  
 - Obtained from the State of Indiana Geographic Information Office Library  
 - Sediment samples collected May 5, 2009  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009

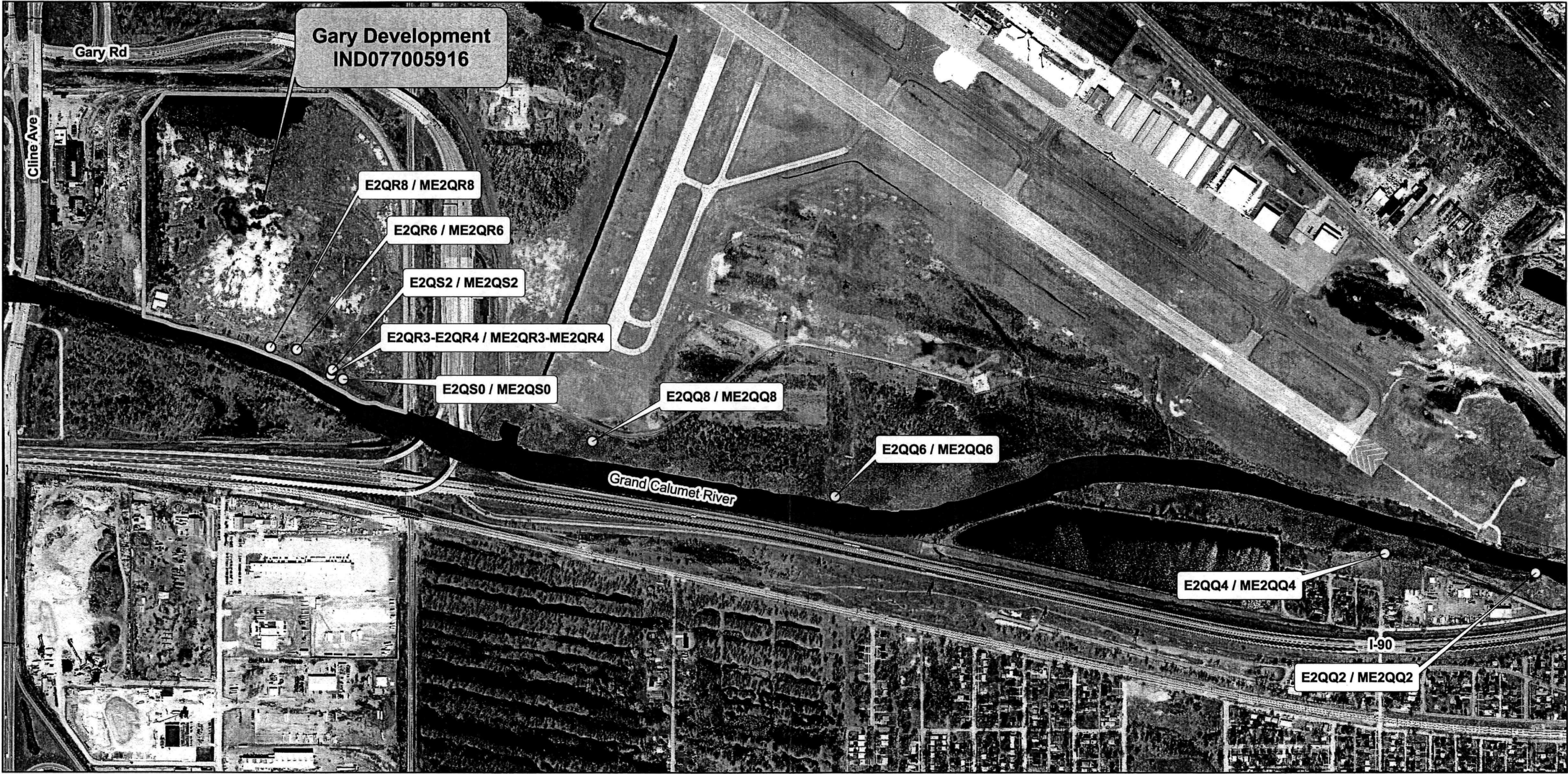


- Deep Sample Locations with Sample Numbers
- Approximate Site Boundary
- Grand Calumet River





Deep Sediment Sample Locations, Gary Development Landfill  
Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)

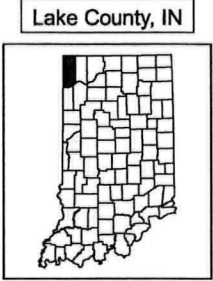
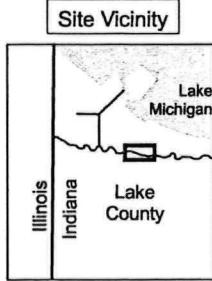
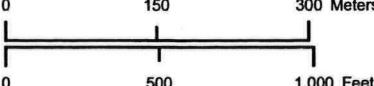


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Mapped By: Mike Hill, Office of Land Quality  
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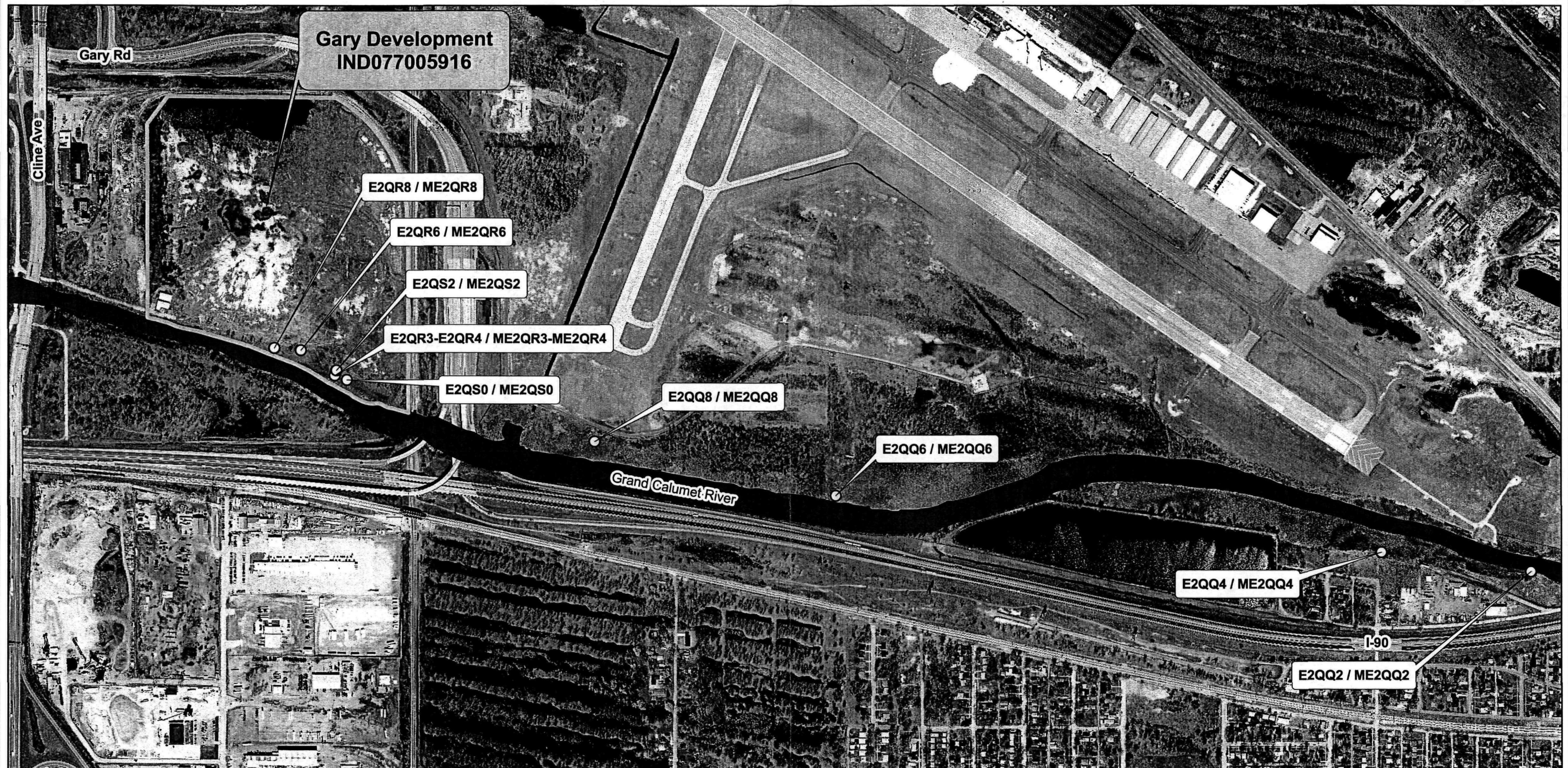


- Deep Sample Locations with Sample Numbers
- - - Approximate Site Boundary
- Grand Calumet River





# Deep Sediment Sample Locations, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



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**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

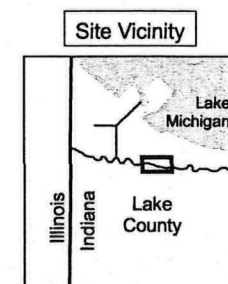
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**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009



- Deep Sample Locations with Sample Numbers
- Approximate Site Boundary
- Grand Calumet River

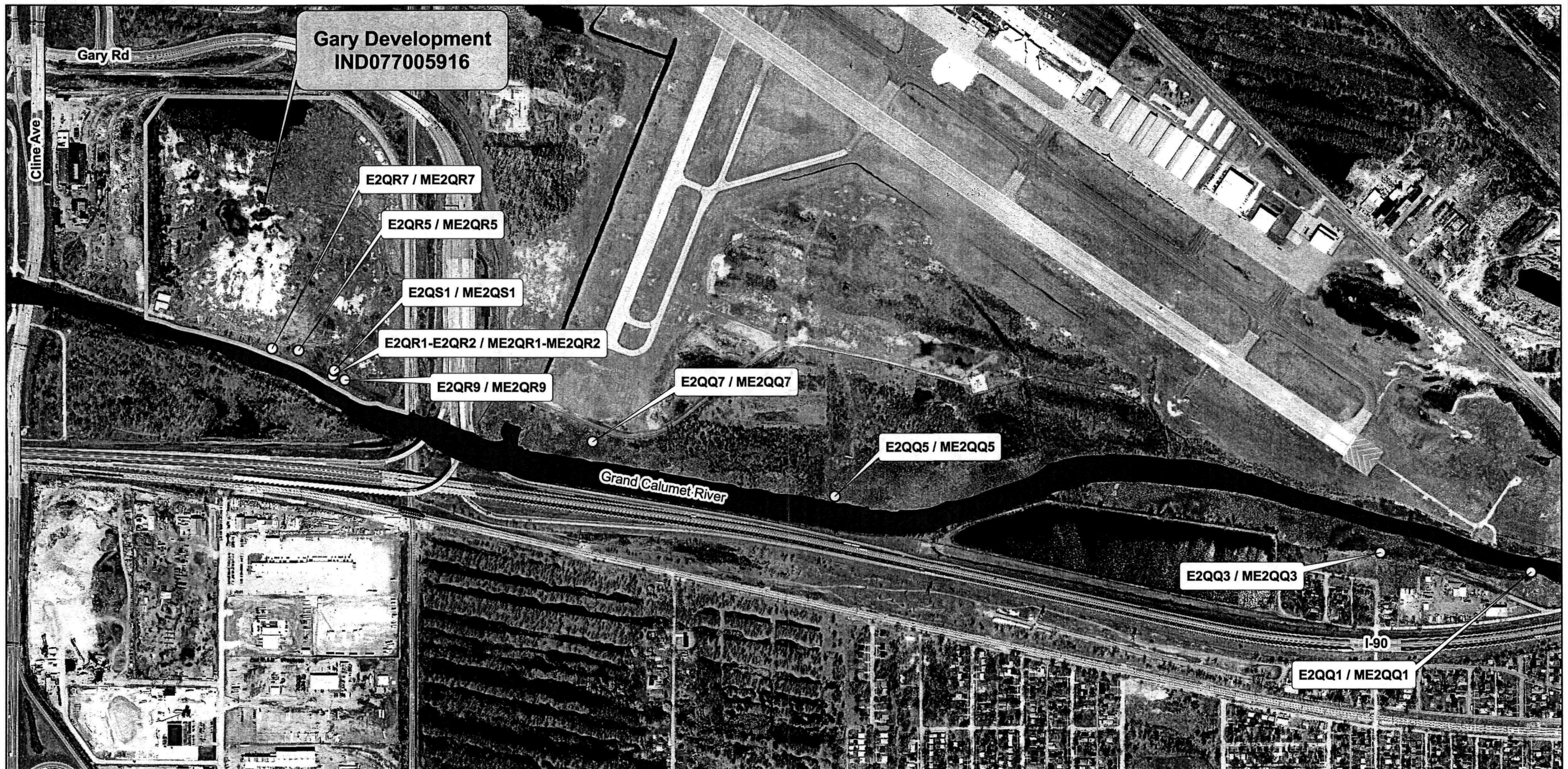


0 150 300 Meters  
 0 500 1,000 Feet





# Shallow Sediment Sample Locations, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)

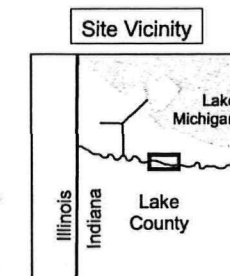
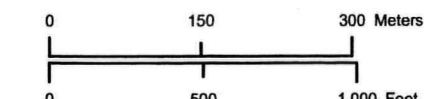


**Sources:**  
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**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
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**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009

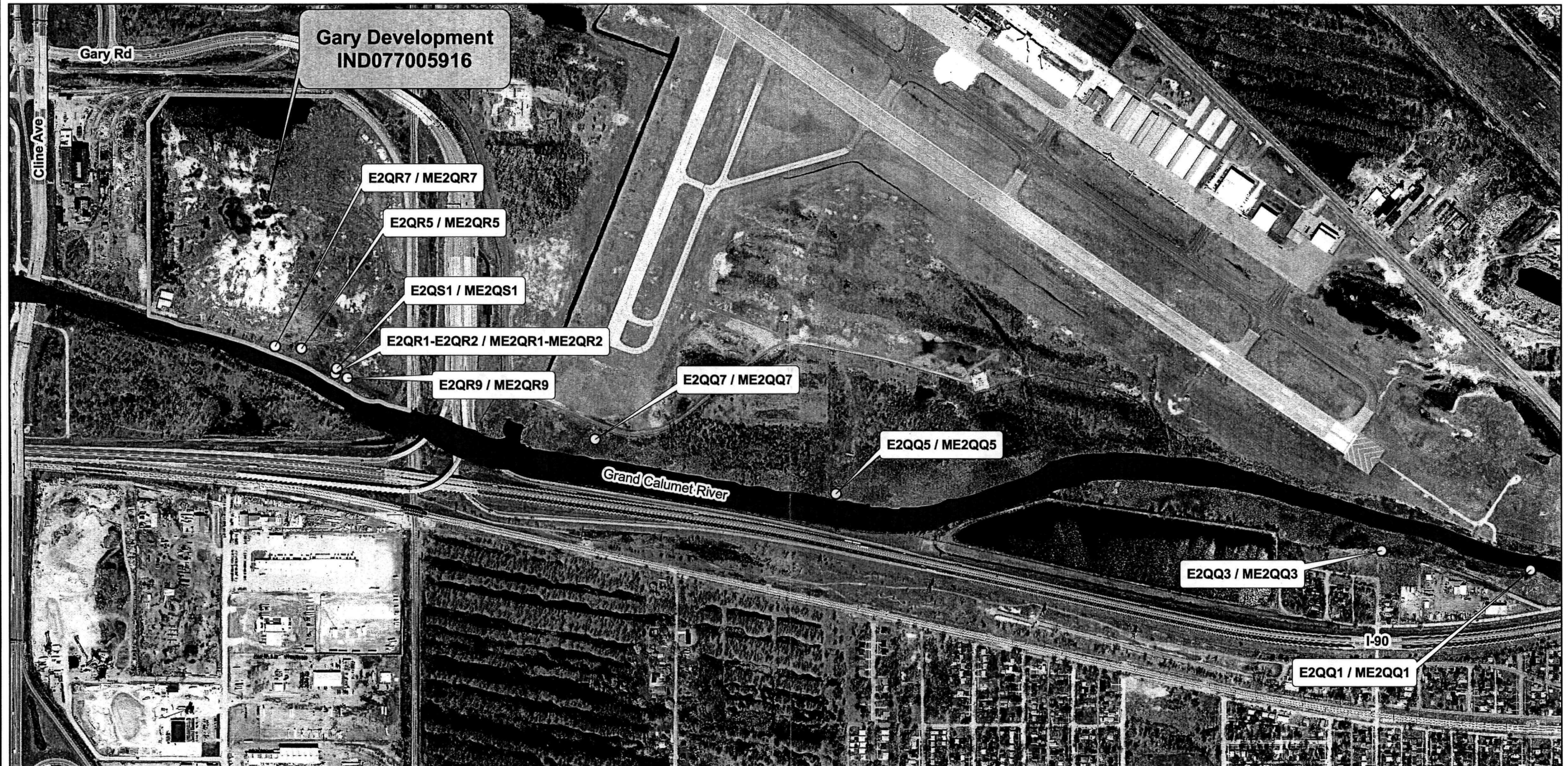


- Shallow Sample Locations with Sample Numbers
- - - Approximate Site Boundary
- Grand Calumet River





# Shallow Sediment Sample Locations, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)

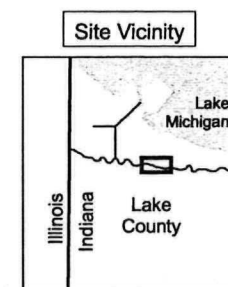
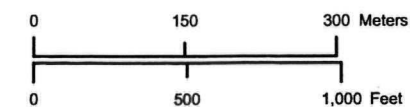


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**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009

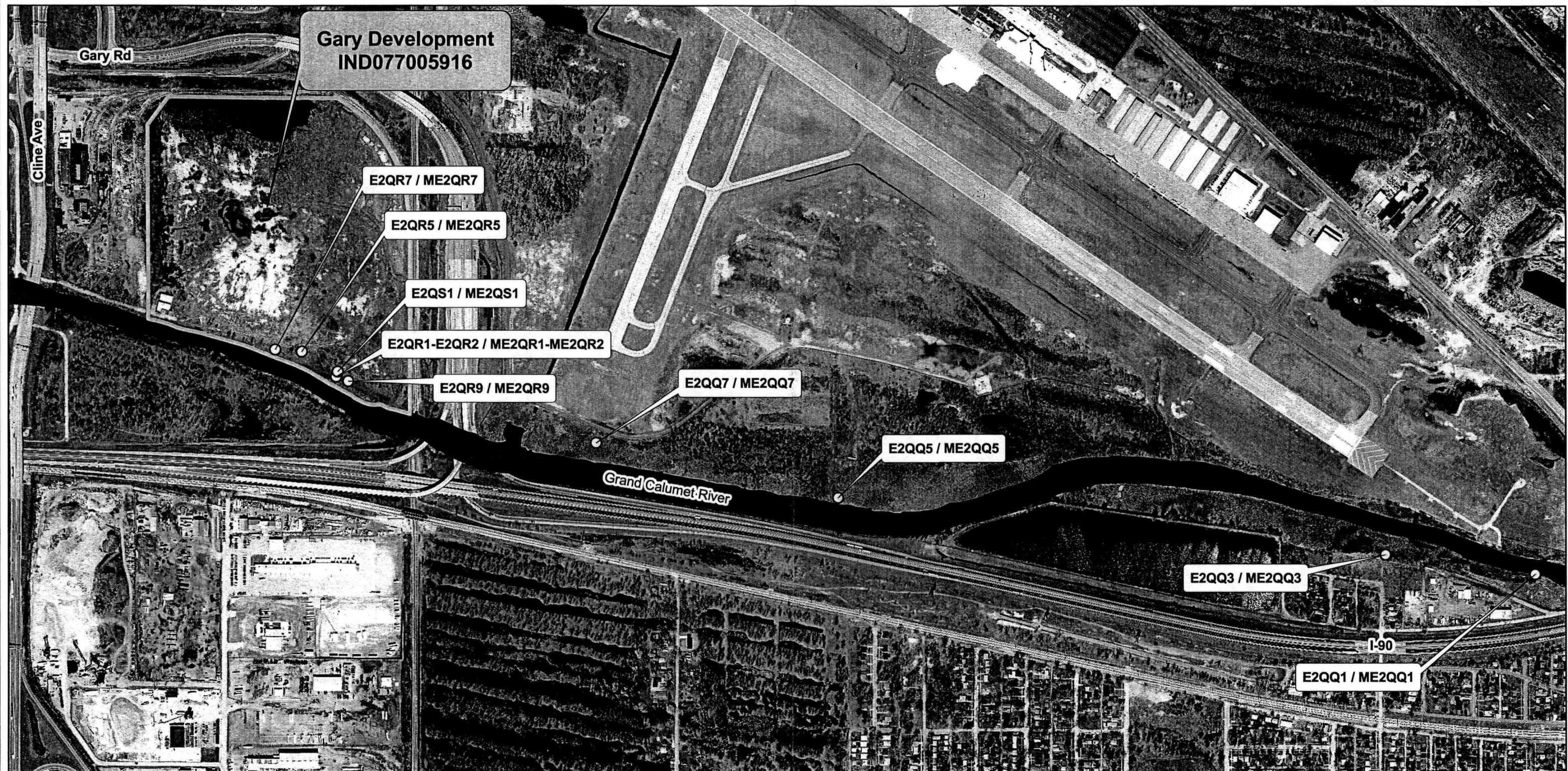


- Shallow Sample Locations with Sample Numbers
- - - Approximate Site Boundary
- Grand Calumet River





# Shallow Sediment Sample Locations, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)

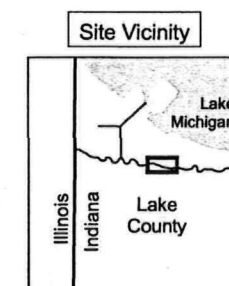
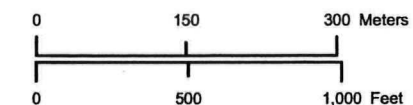


**Sources:**  
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**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

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**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009

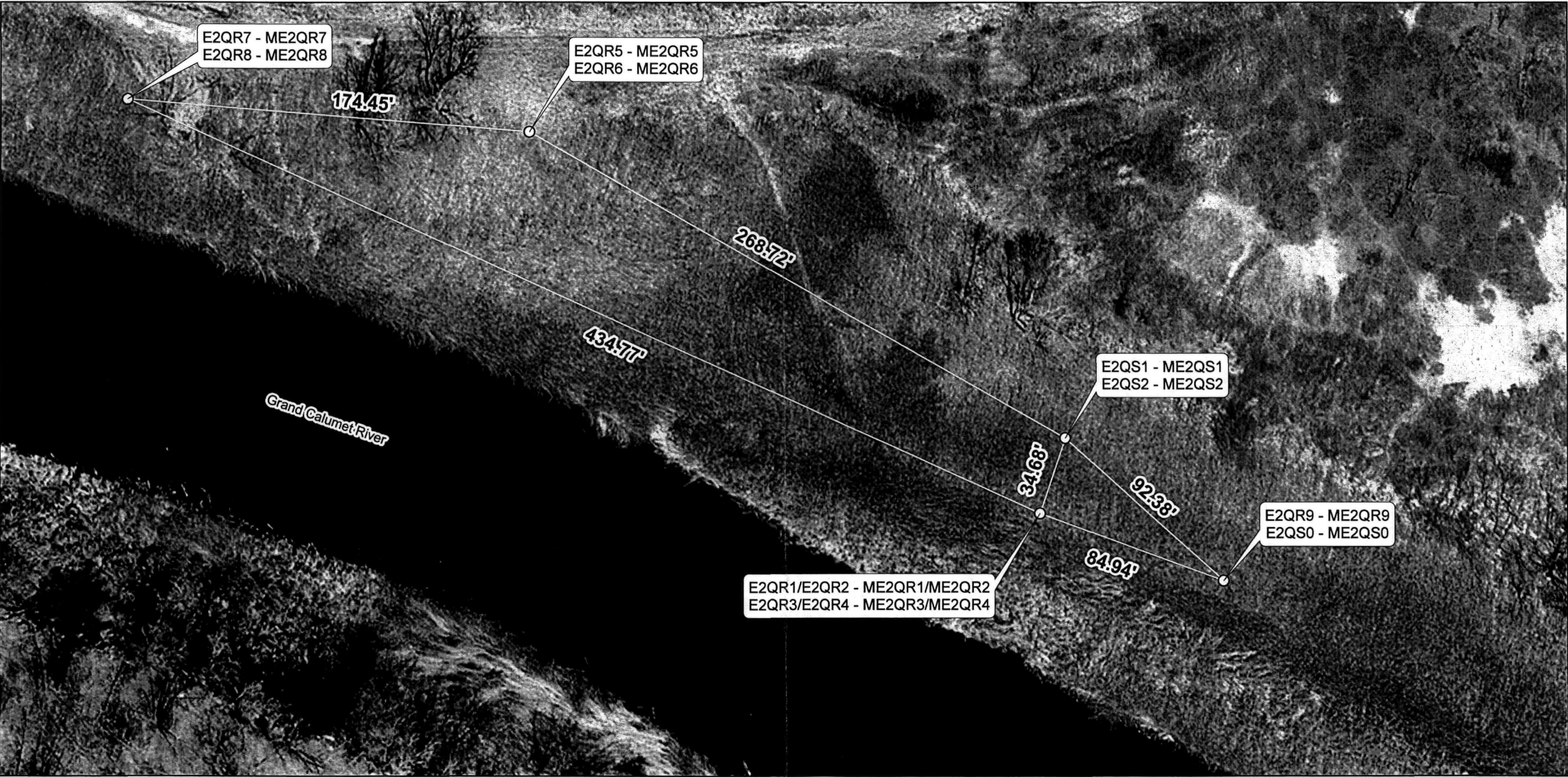


- Shallow Sample Locations with Sample Numbers
- Approximate Site Boundary
- Grand Calumet River





# Sediment Sample Location Distance Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)

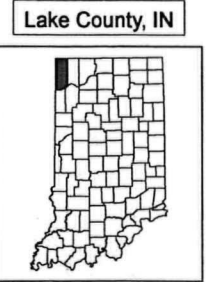
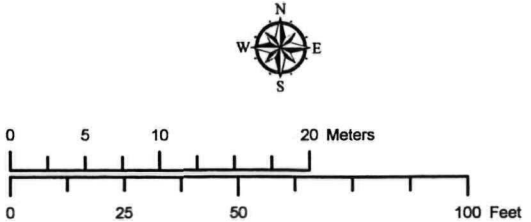


**Sources:**  
**Non Orthophotography Data**  
 - Obtained from the State of Indiana Geographic Information Office Library  
 - Sediment samples collected May 5, 2009  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009

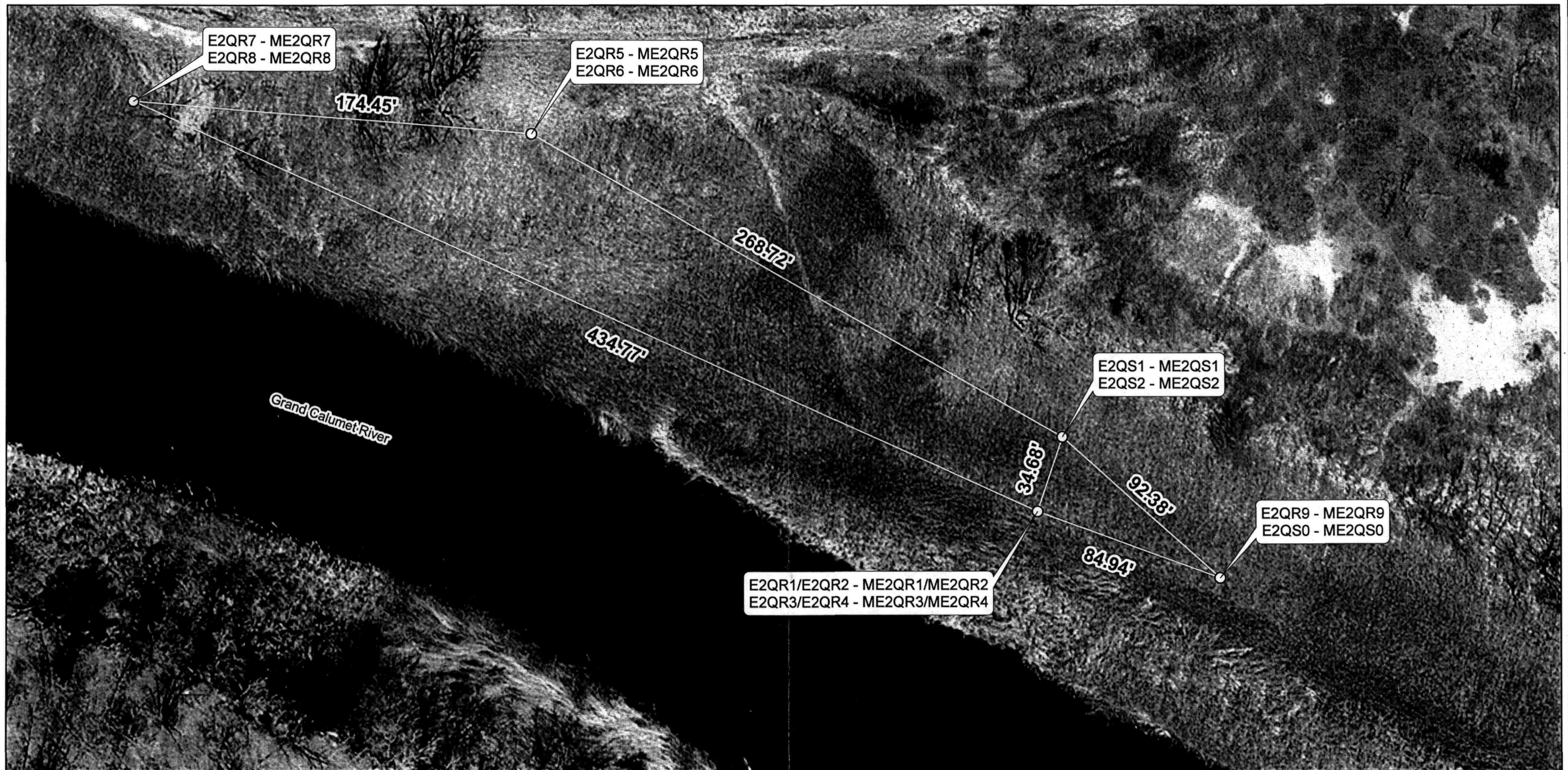


○ Sediment Sample Location with Sample #'s  
**434.77'** Measured Distance Between Samples





# Sediment Sample Location Distance Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)

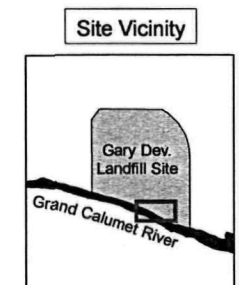
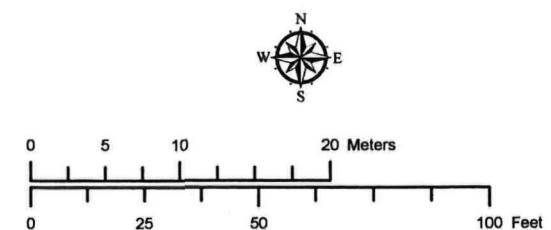


**Sources:**  
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**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

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**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009

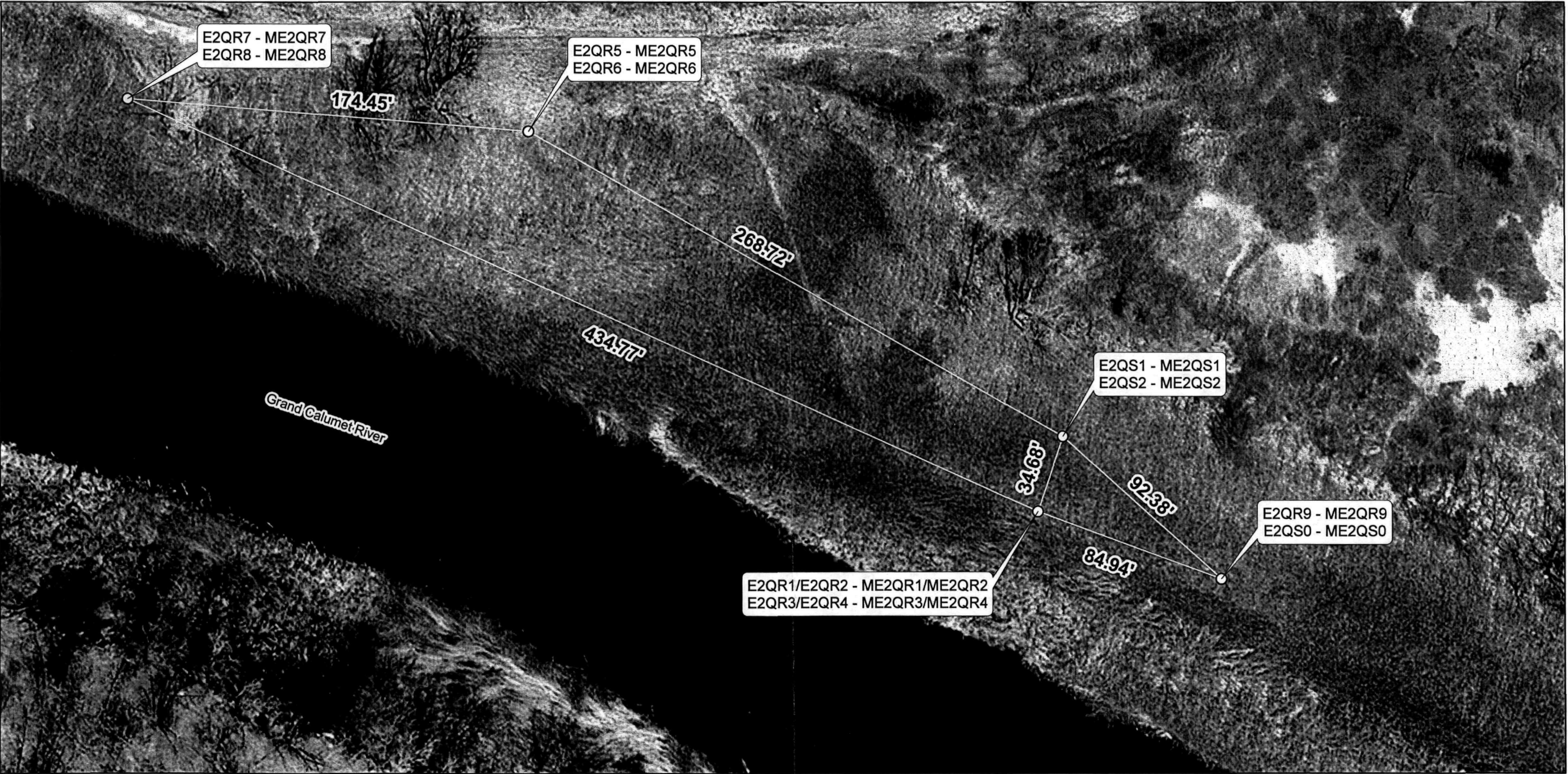


○ Sediment Sample Location with Sample #'s  
**434.77'** Measured Distance Between Samples





**Sediment Sample Location Distance Map, Gary Development Landfill**  
**Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)**

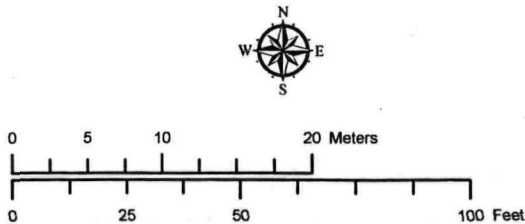


**Sources:**  
**Non Orthophotography Data**  
- Obtained from the State of Indiana Geographic Information Office Library  
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**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
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**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009



○ Sediment Sample Location with Sample #'s  
**434.77' Measured Distance Between Samples**



Site Vicinity

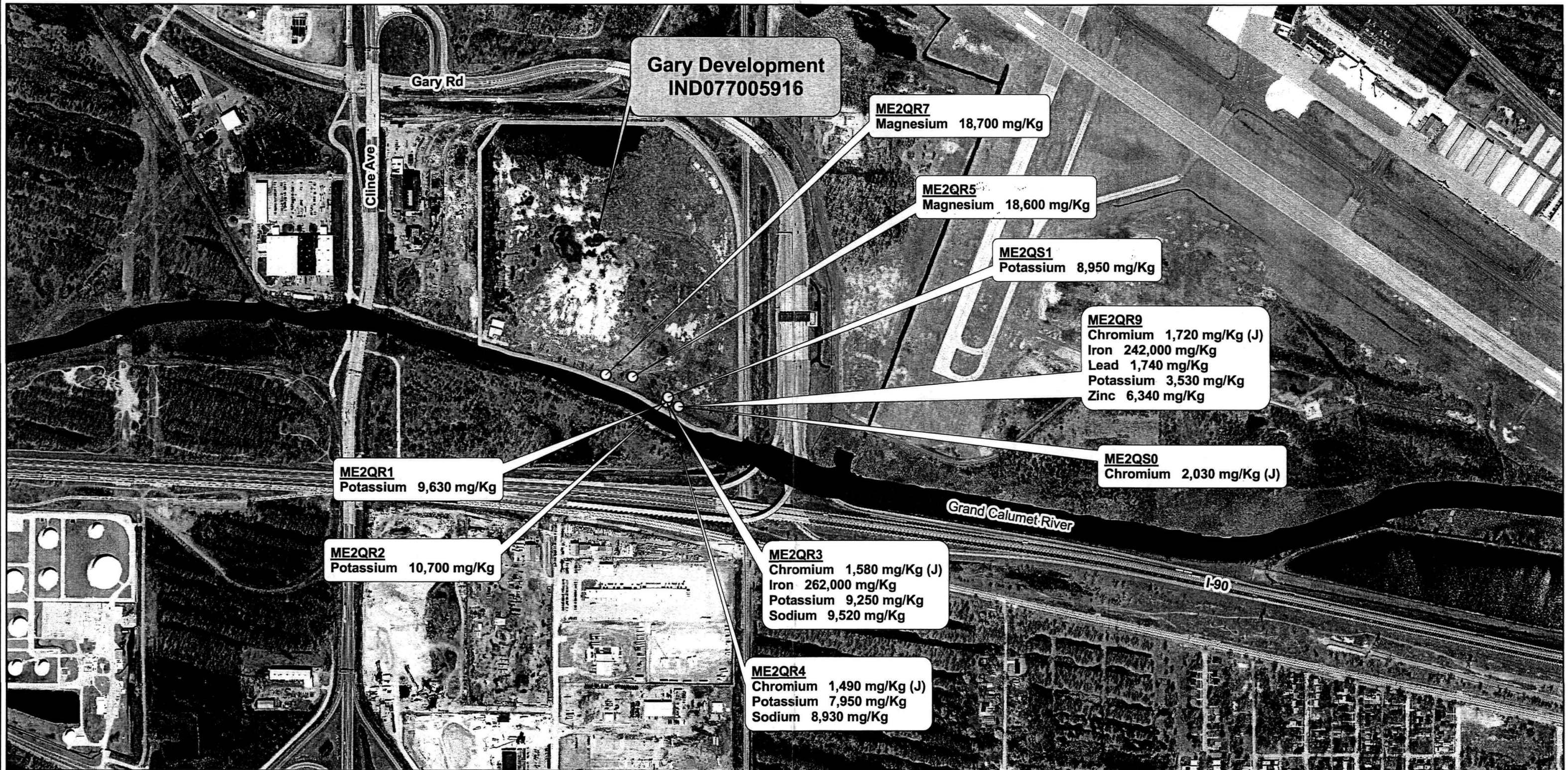


Lake County, IN





# Metals Key Findings Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



A number of the sample results included in the Key Findings List are qualified with a "J" flag. This "J" flag is defined as: "The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample."

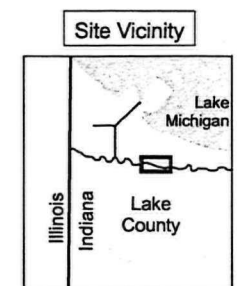
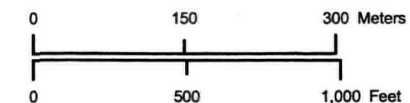
**Sources:**  
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 - Obtained from the State of Indiana Geographic Information Office Library  
 - Sediment samples collected May 5, 2009  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/17/2009

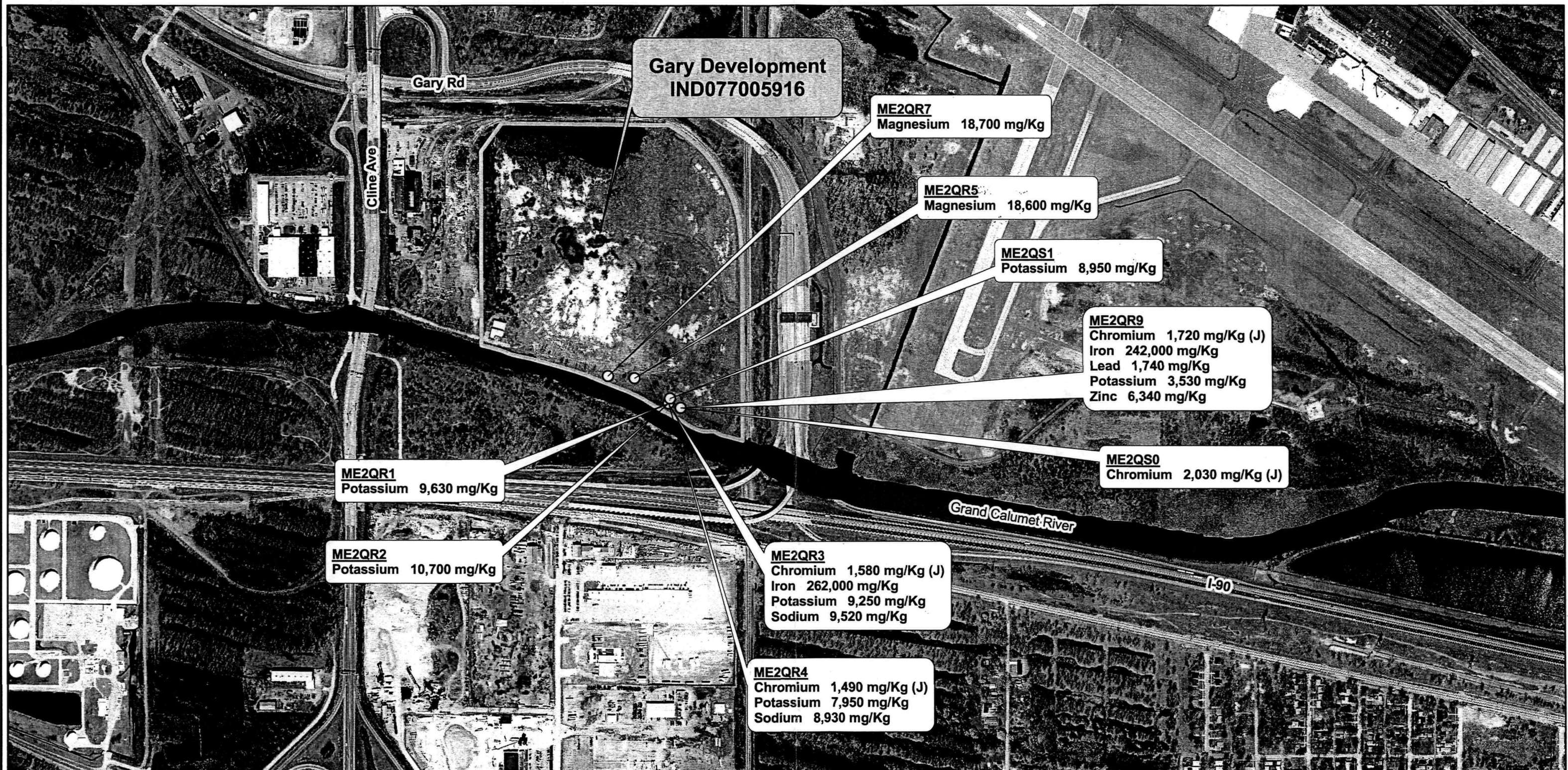


- Metals - Key Findings Sample Point
- Approximate Site Boundary
- Grand Calumet River





# Metals Key Findings Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



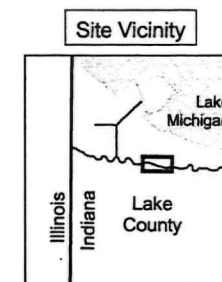
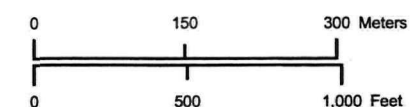
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Orthophotography - Obtained from IndianaMap Framework Data (www.indianamap.org)  
Map Projection: UTM Zone 16 N Map Datum: NAD83

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Mapped By: Mike Hill, Office of Land Quality  
Date: 9/17/2009

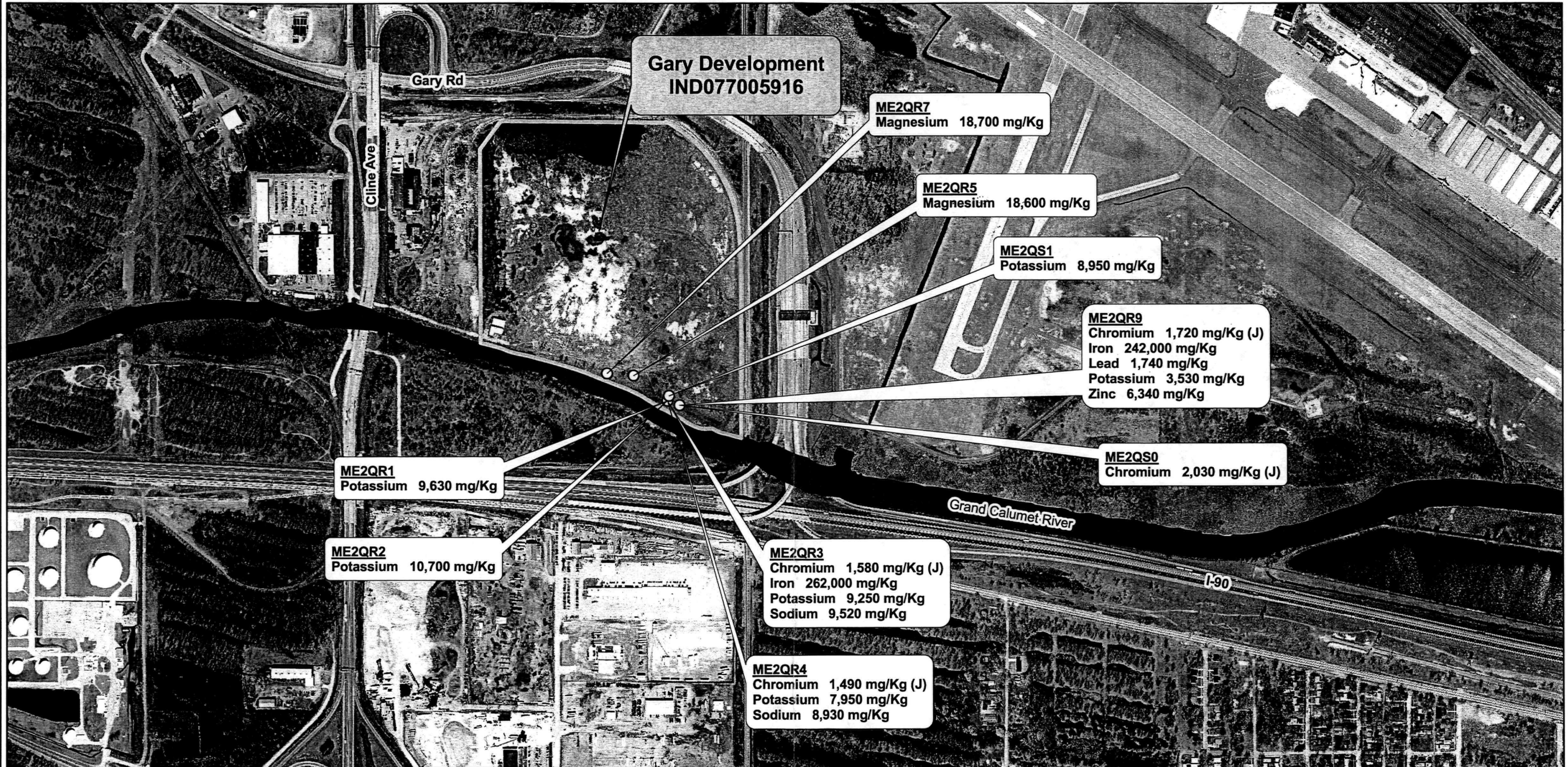


- Metals - Key Findings Sample Point
- Approximate Site Boundary
- Grand Calumet River





# Metals Key Findings Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



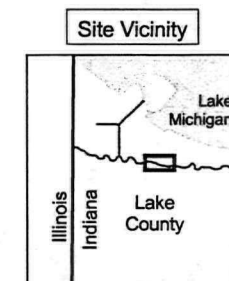
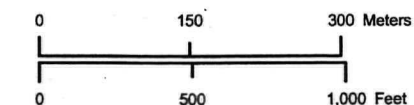
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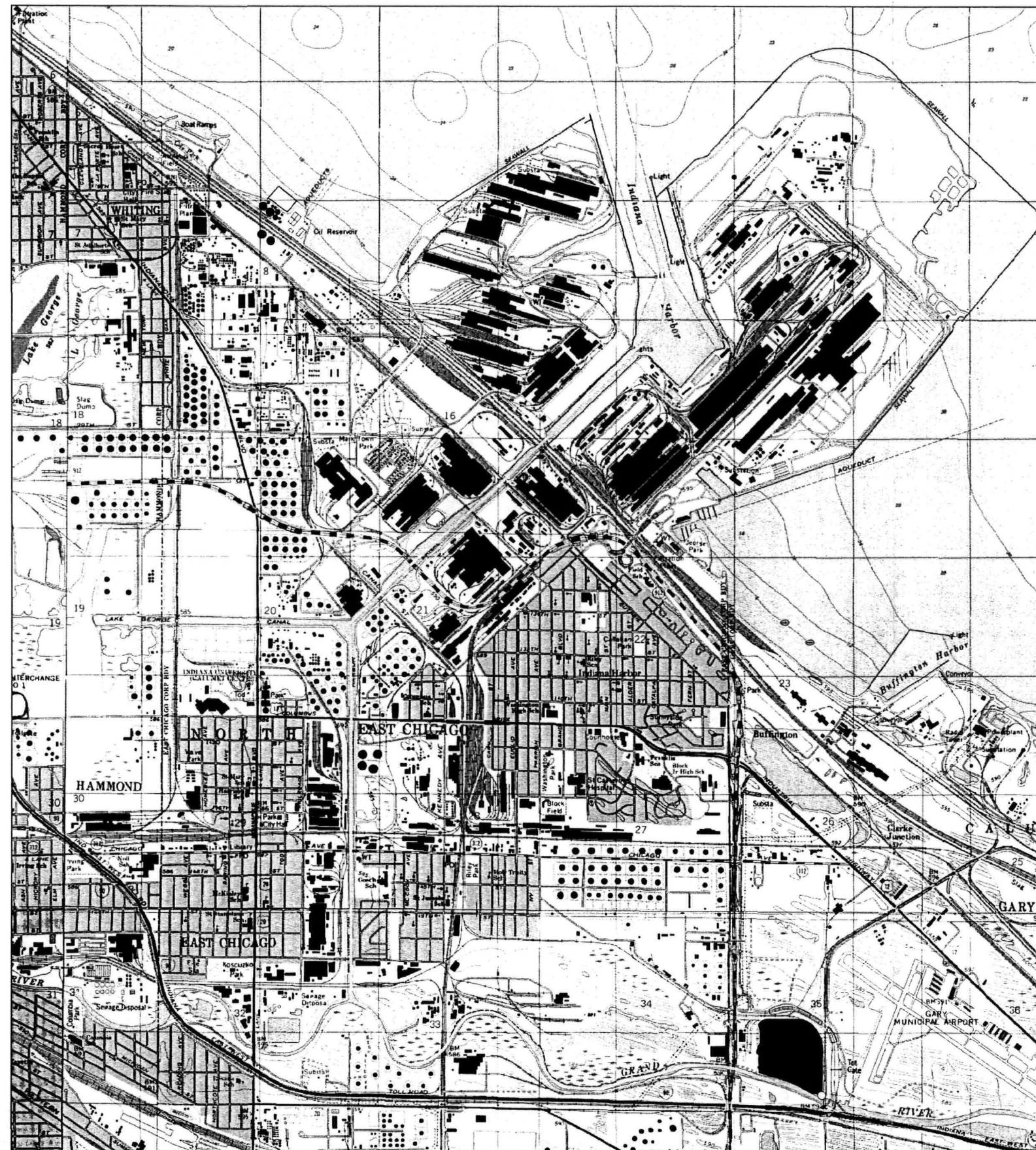
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Mapped By: Mike Hill, Office of Land Quality  
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- Metals - Key Findings Sample Point
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- Grand Calumet River







# 15 Mile Surface Water Pathway, Gary Development Landfill, Gary, Lake County, IN



## Legend

- Gary Development Landfill
- Point of Probable Entry (PPE)
- Surface Water Pathway  
(pathway extends into Lake Michigan totaling miles)

0 0.25 0.5 1 1.5 2 Miles

0 0.25 0.5 1 1.5 2 Kilometers

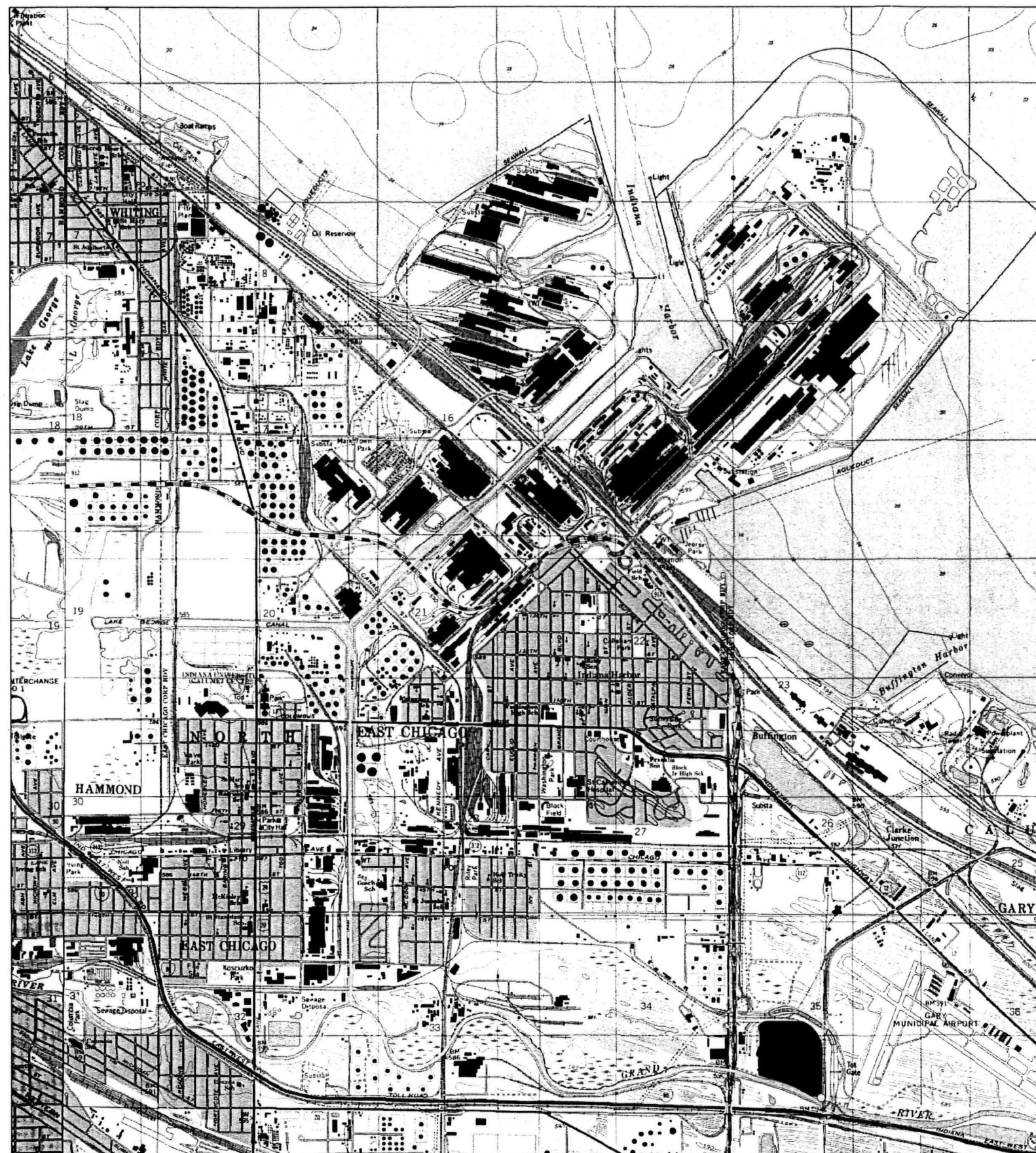


Mapped on July 1, 2005  
by Lorraine Wright  
Applied Science Technologies  
Science Services Branch  
Office of Land Quality  
Indiana Department of Environmental Management

Sources:  
US Census - Tiger county boundaries;  
Digital USGS Topographic Map;  
Surface Water Pathway digitized  
from USGS topographic map;  
Gary Development Landfill boundary is an  
approximation - locations digitized  
from topographic maps, NRCS 2003  
Orthophotography, and verbal descriptions  
by Mark Jawarski

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# 15 Mile Surface Water Pathway, Gary Development Landfill, Gary, Lake County, IN



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(pathway extends into Lake Michigan totaling miles)

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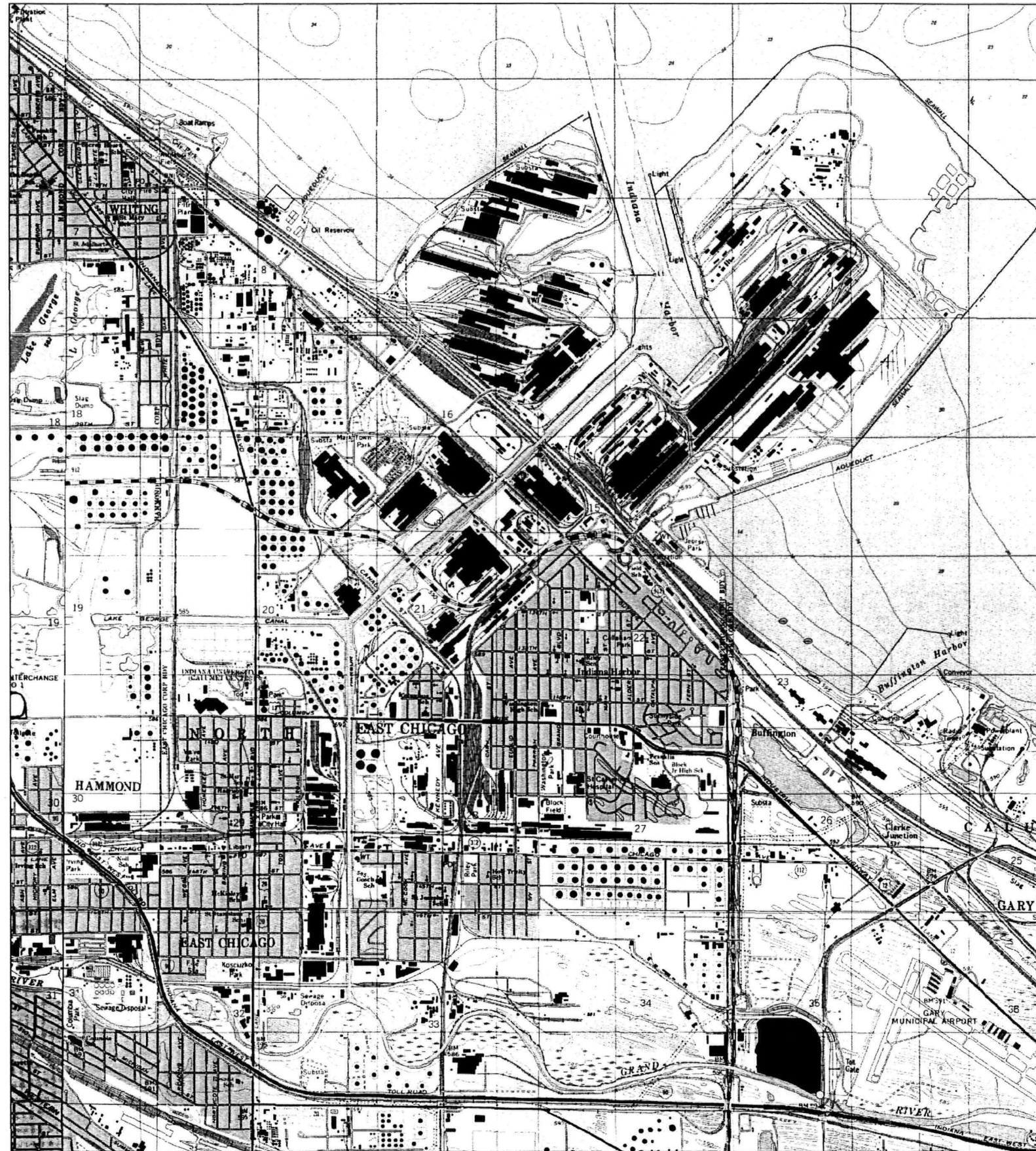


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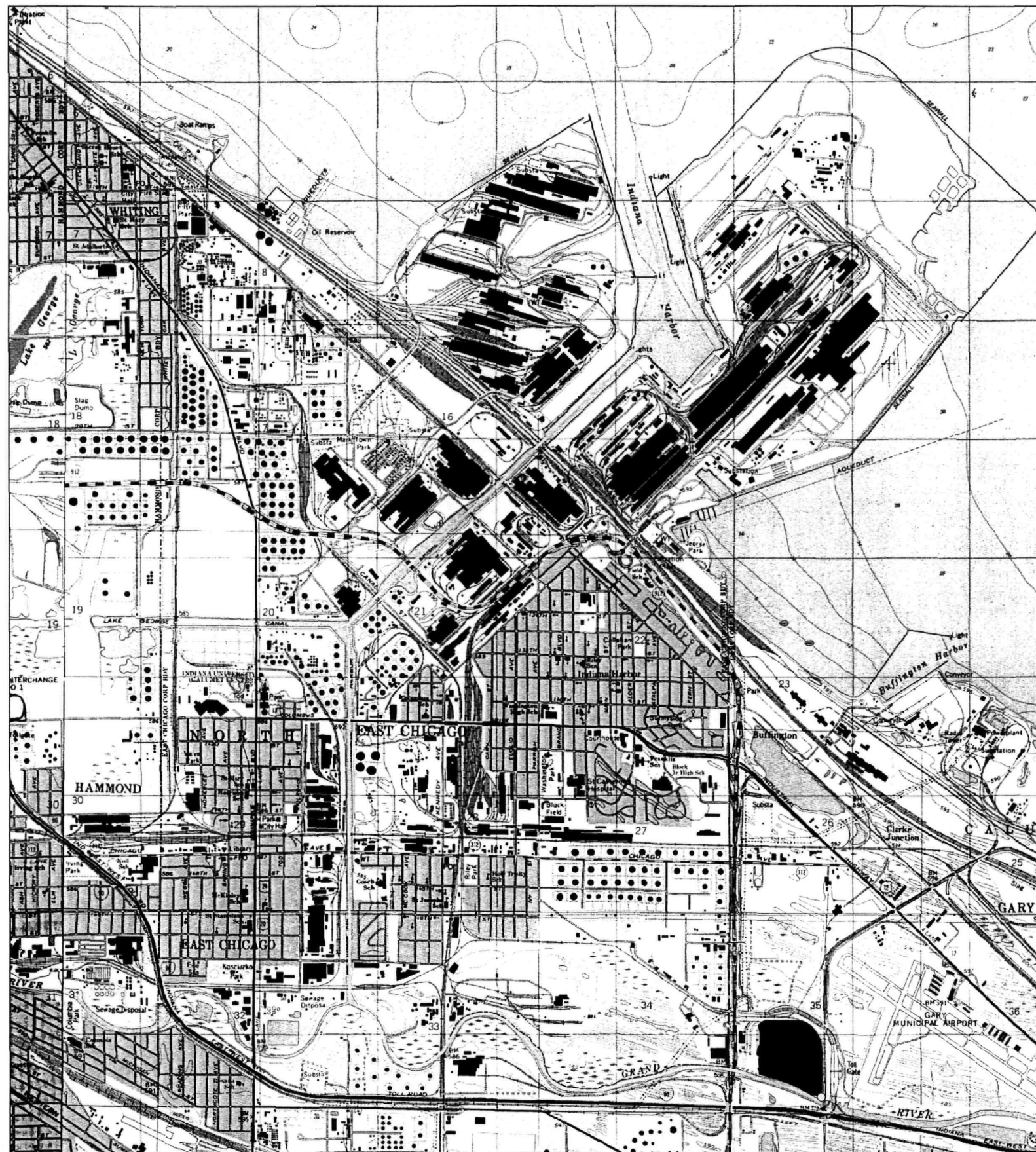


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0 0.25 0.5 1 1.5 2 Miles

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Mapped on July 1, 2005  
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Applied Science Technologies  
Science Services Branch  
Office of Land Quality  
Indiana Department of Environmental Management

**Sources:**  
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Four Mile Radius Map  
Gary Development Landfill  
Gary, Lake County, IN  
U.S. EPA ID: IND077005916

| Buffer Distance           | Adjusted Population |
|---------------------------|---------------------|
| 0.25 Mile                 | 187                 |
| 0.5 Mile                  | 473                 |
| 1 Mile                    | 1722                |
| 2 Mile                    | 19255               |
| 3 Mile                    | 33638               |
| 4 Mile                    | 36832               |
| Total Adjusted Population | 92107               |

Mapped by: Mike Hill, Office of Land Quality, Engineering & GIS Services, September 30, 2009

Sources:  
IDEM 4 Mile Mapper Application  
Indiana Geographic Information Office Data Library  
Digital USGS Digital Raster Graphics 1:24,000 Topographic Map  
Census Block Group 2006 (total population)

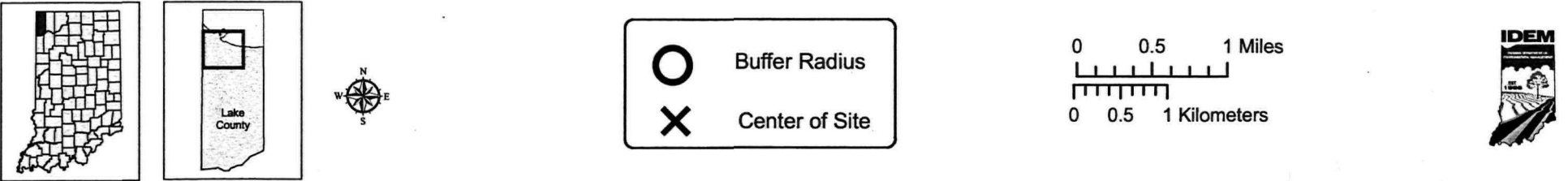
Disclaimer: This map does not represent a legal document. It is intended to serve as an aid in graphic representation only. It is not warranted for accuracy or suitability for any purpose. There are known sources of error in the population estimates presented on this map including:

- The Census 2006 block group population data is out of date, and is itself an imperfect estimate of population.
- The adjusted population estimate derived from the Census 2006 block group data assumes that the population is evenly distributed in each block group polygon. Due to this assumption, the adjusted population for the quarter mile buffer distance is assumed to be zero.
- The Census 2006 block group population has been clipped to include Indiana data only.

Method of Estimating Population: The adjusted population estimate is the sum of Census 2006 block group populations (TOTALPOP field) adjusted to include only the areas of the block groups contained inside the buffers. The adjusted population estimate assumes that the population is evenly distributed in each block group polygon. The specific procedure used in this analysis is as follows:

- The study area or site is drawn on screen by the user. The study area can be 1 or more polygons.
- The user selects the polygon(s) to include in the population estimate, and clicks a button to perform the rest of the analysis which is described in the following steps.
- The study area polygon(s) are buffered at .0001, 1/4, 1/2, 1, 2, 3 and 4 miles. The buffers are stored as polygons in a shapefile. In analyses with more than one study area polygon, intersecting buffers are dissolved to prevent overlapping buffers of the same buffer distance. This is necessary to prevent counting the population more than once in areas where buffers overlap.
- A spatial union is performed on the block group layer and the buffers layer resulting in a new layer containing polygons reflecting the combined geography of the block groups and the buffers. The new polygons inherit the attributes of the parent polygons from the block groups and buffers layers, including the population and area of the parent block group polygon. The area of the new polygons is not calculated automatically during the union.
- The geographic area of each new polygon is determined through a field calculation using a piece of visual basic code. See ArcGIS Help for a discussion of this process including the code.
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This map was created using 4 Mile Mapper v1.0.0, a customized application developed in ArcGIS v9.1 in the Office of Land Quality, Science Services Branch, Engineering and GIS Section by Mr. Raju Gopin, Indiana Governor's Public Service Intern. 4 Mile Mapper v1.0.0 was created during the Summer of 2004.





# Four Mile Radius Map

## Gary Development Landfill

### Gary, Lake County, IN

U.S. EPA ID: IND077005916

| Buffer Distance           | Adjusted Population |
|---------------------------|---------------------|
| 0.25 Mile                 | 187                 |
| 0.5 Mile                  | 473                 |
| 1 Mile                    | 1722                |
| 2 Mile                    | 19255               |
| 3 Mile                    | 33638               |
| 4 Mile                    | 36832               |
| Total Adjusted Population | 92107               |

Mapped by: Mike Hill, Office of Land Quality, Engineering & GIS Services, September 30, 2009

Sources:  
 IDEM 4 Mile Mapper Application  
 Indiana Geographic Information Office Data Library  
 Digital USGS Digital Raster Graphics 1:24,000 Topographic Map  
 Census Block Group 2006 (total population)

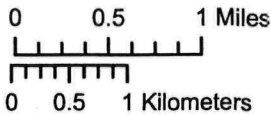
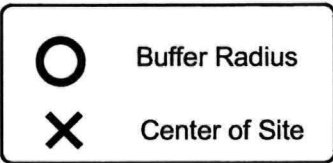
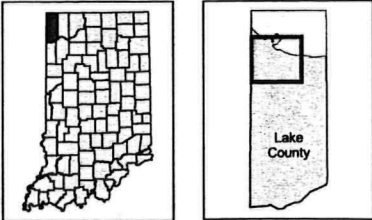
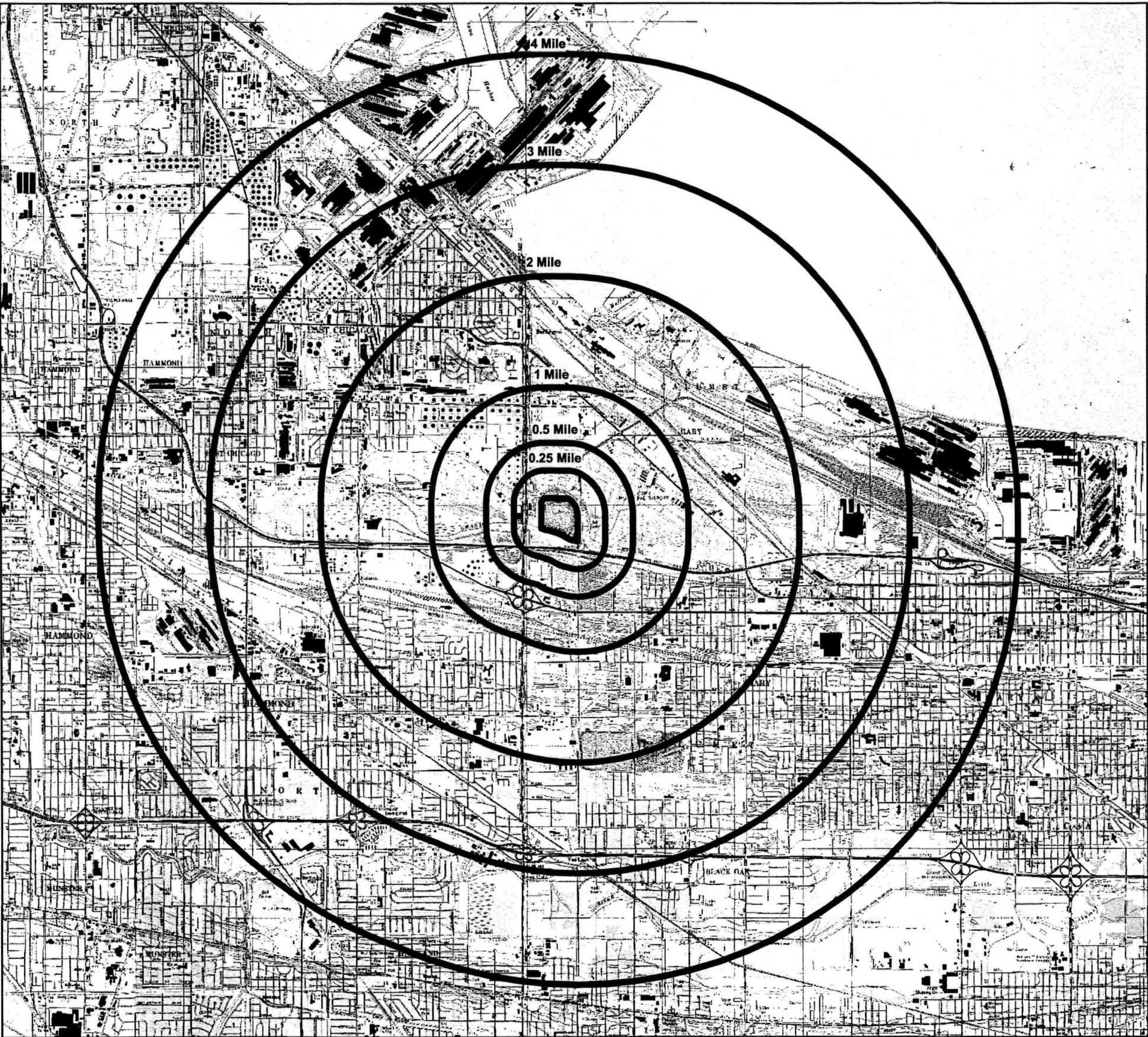
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- The Census 2006 block group population data is out of date, and is itself an imperfect estimate of population.
- The adjusted population estimate derived from the Census 2006 block group data assumes that the population is evenly distributed in each block group polygon. Due to this assumption, the adjusted population for the quarter mile buffer distance is assumed to be zero.
- The Census 2006 block group population has been clipped to include Indiana data only.

Method of Estimating Population: The adjusted population estimate is the sum of Census 2006 block group populations (TOTALPOP field) adjusted to include only the areas of the block groups contained inside the buffers. The adjusted population estimate assumes that the population is evenly distributed in each block group polygon. The specific procedure used in this analysis is as follows:

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U.S. EPA ID: IND077005916

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Mapped by: Mike Hill, Office of Land Quality, Engineering & GIS Services, September 30, 2009

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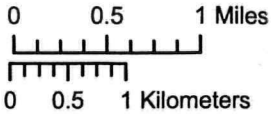
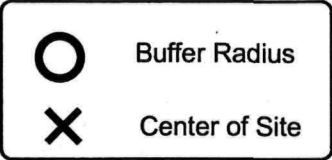
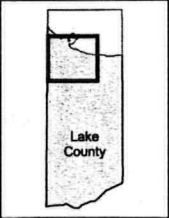
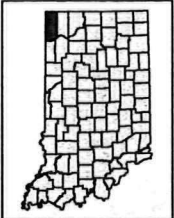
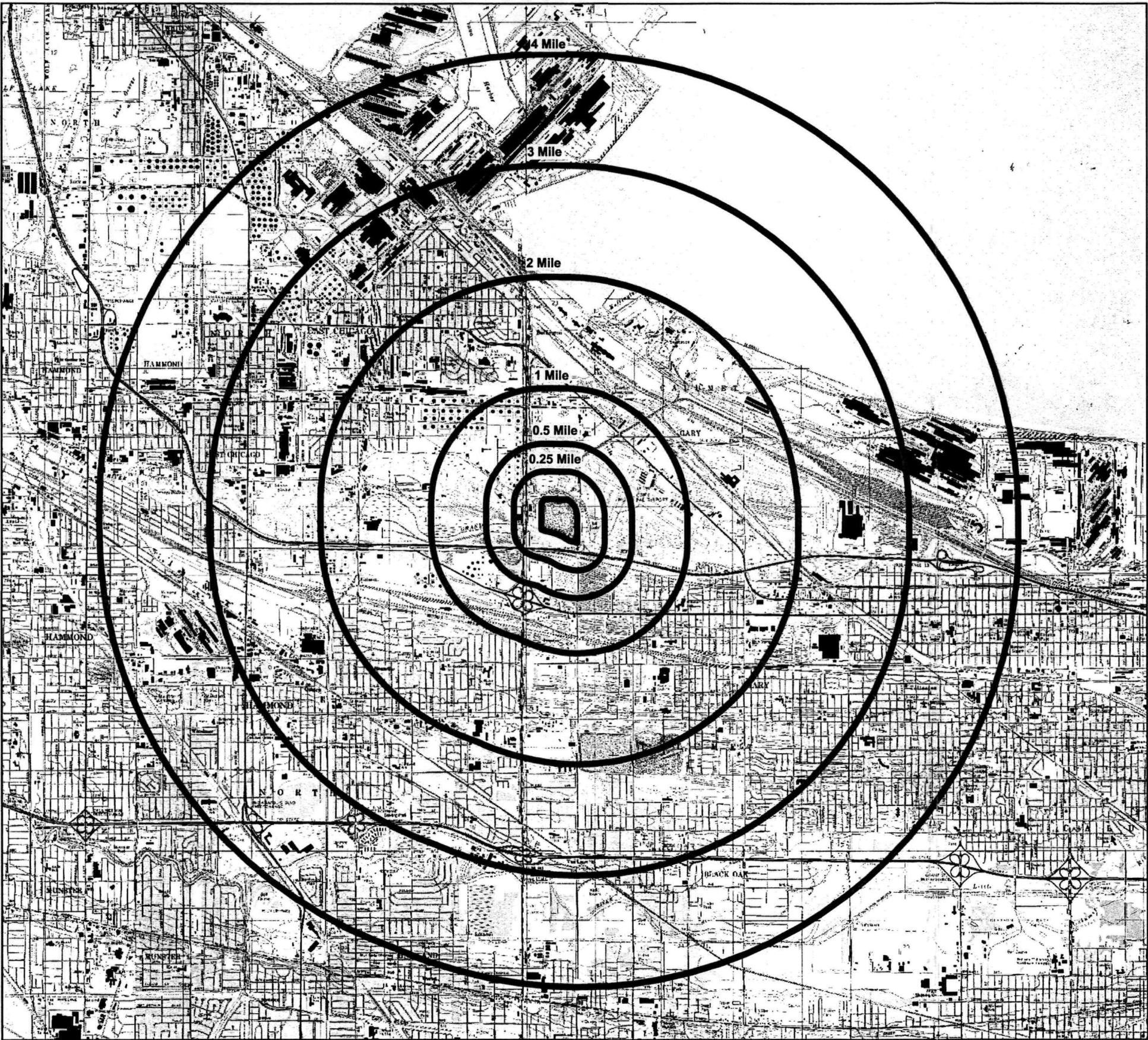
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# Site Location Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



**Sources:**  
**Non-Orthophotography Data**  
 - Obtained from the State of Indiana Geographic Information Office Library  
 - Approximate Site Boundary based on Lake County parcels.

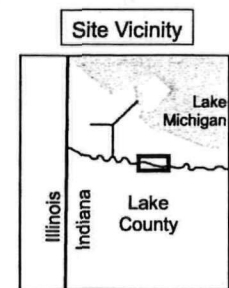
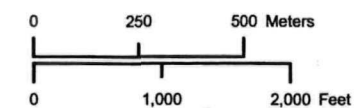
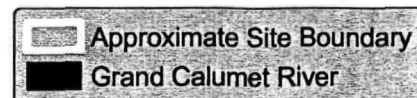
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 Parcel ID: 45-03-35-326-001.000-004 5.9 acres  
 Parcel ID: 45-03-35-326-002.000-004 40 acres

**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)

**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/29/2009





# Site Location Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



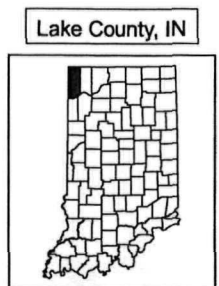
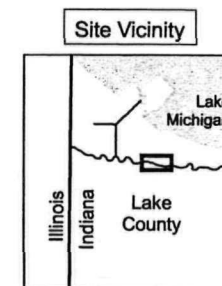
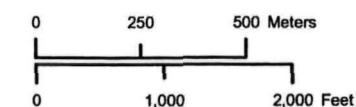
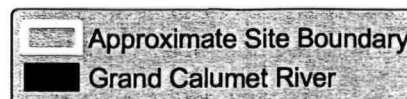
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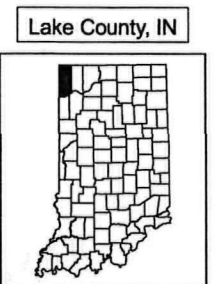
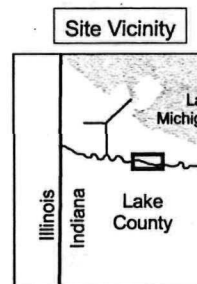
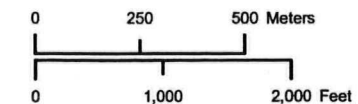
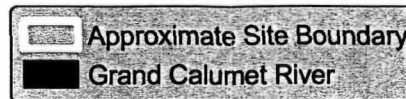
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PCBs Key Findings Map, Gary Development Landfill  
Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



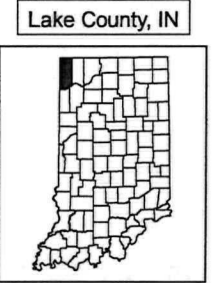
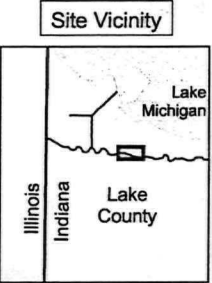
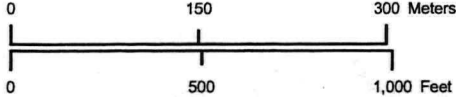
A number of the sample results included in the Key Findings List are qualified with a "J" flag. This "J" flag is defined as: "The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample."

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Mapped By: Mike Hill, Office of Land Quality  
Date: 9/17/2009



- PCBs - Key Findings Sample Point
- Approximate Site Boundary
- Grand Calumet River





PCBs Key Findings Map, Gary Development Landfill  
Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



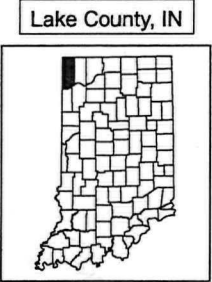
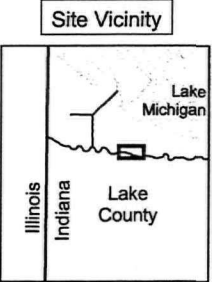
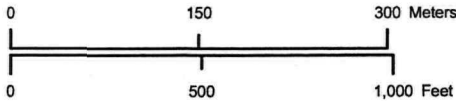
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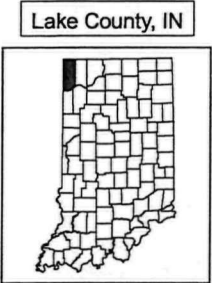
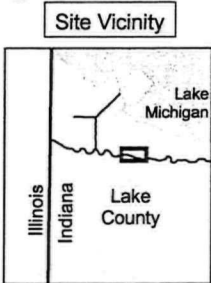
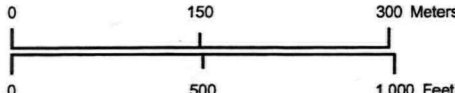
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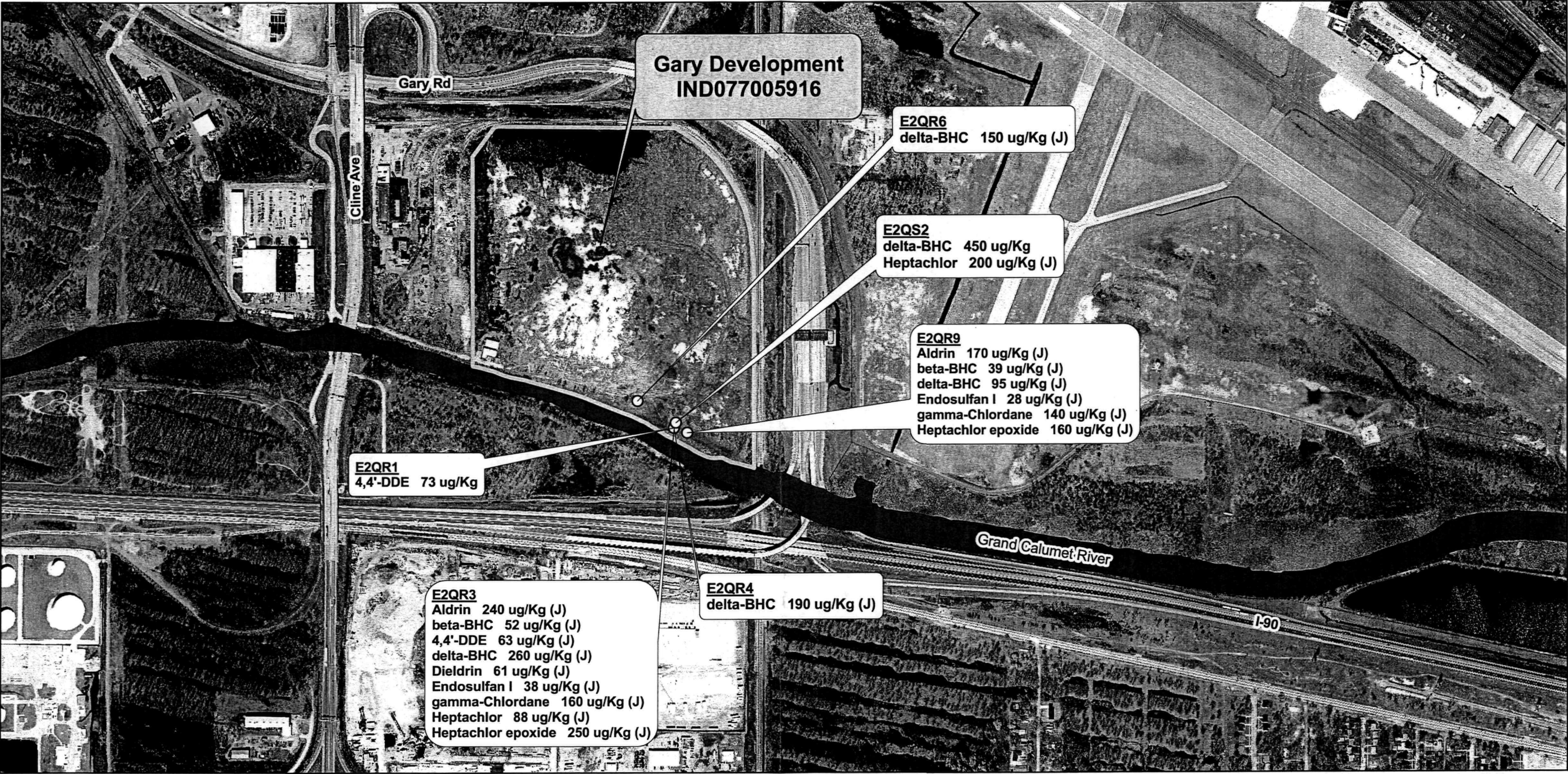


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Pesticides Key Findings Map, Gary Development Landfill  
Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



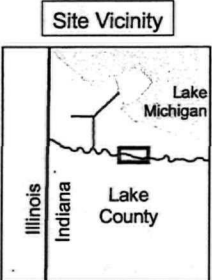
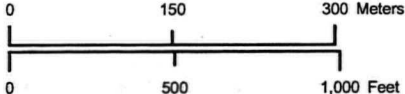
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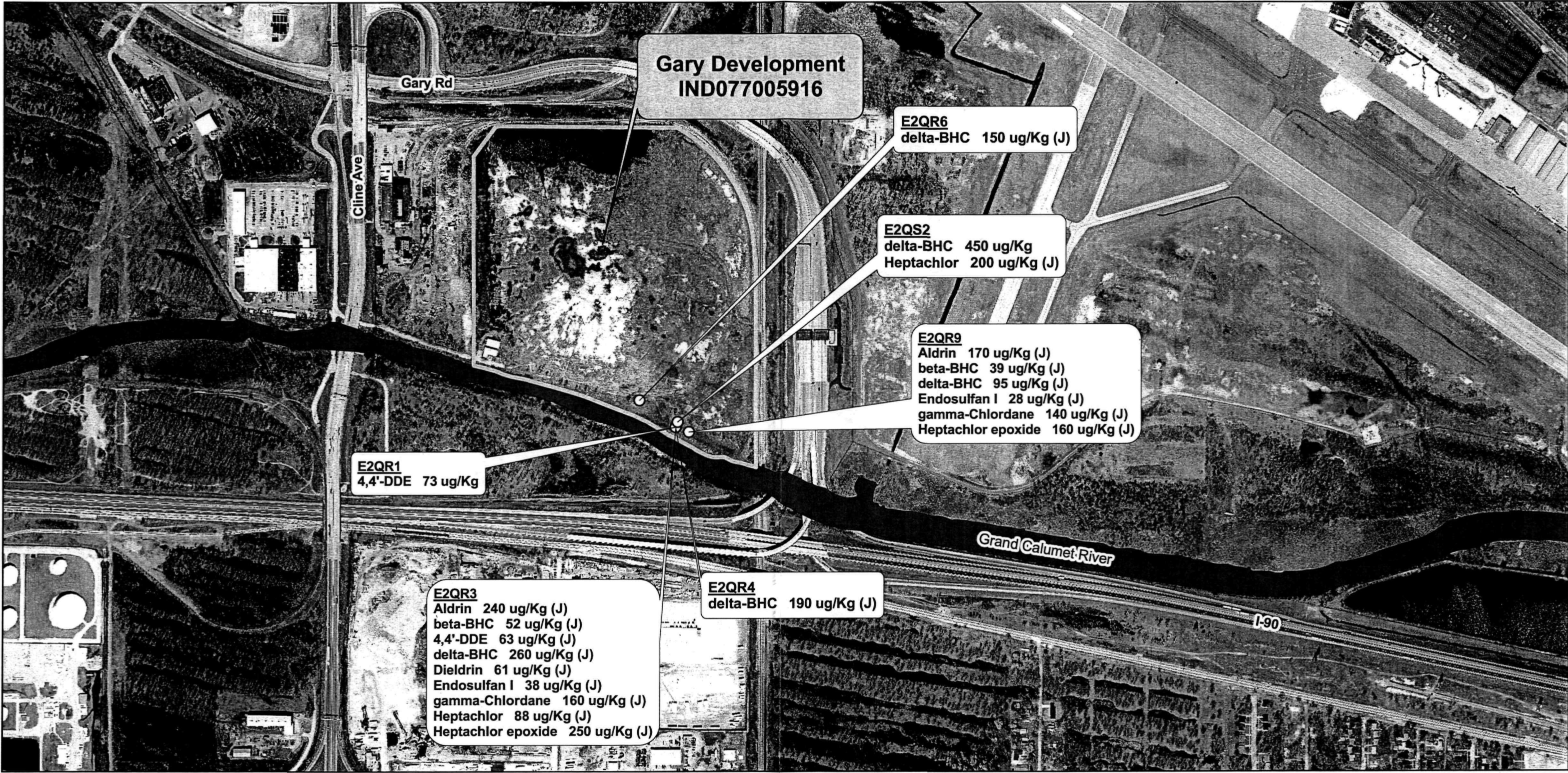


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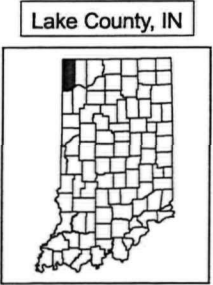
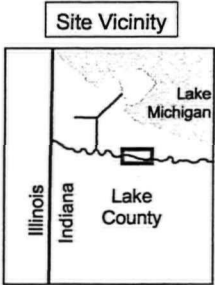
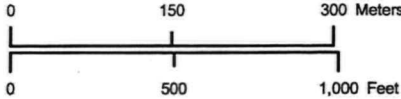
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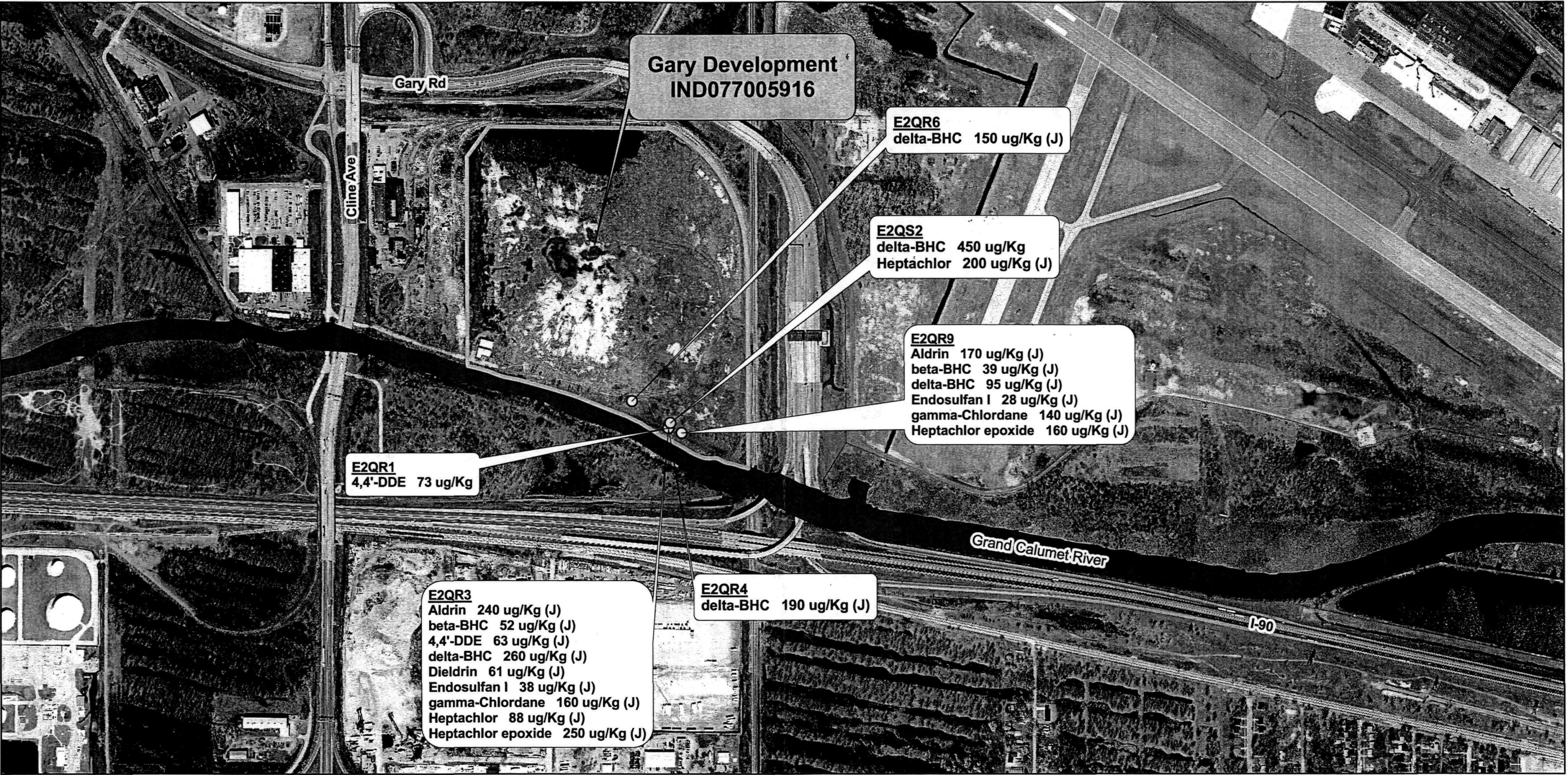


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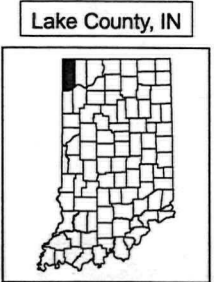
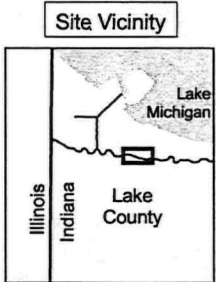
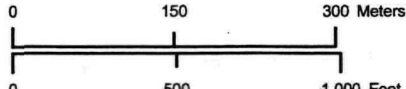
A number of the sample results included in the Key Findings List are qualified with a "J" flag. This "J" flag is defined as: "The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample."

**Sources:**  
**Non Orthophotography Data**  
- Obtained from the State of Indiana Geographic Information Office Library  
- Sediment samples collected May 5, 2009  
**Orthophotography:** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/17/2009

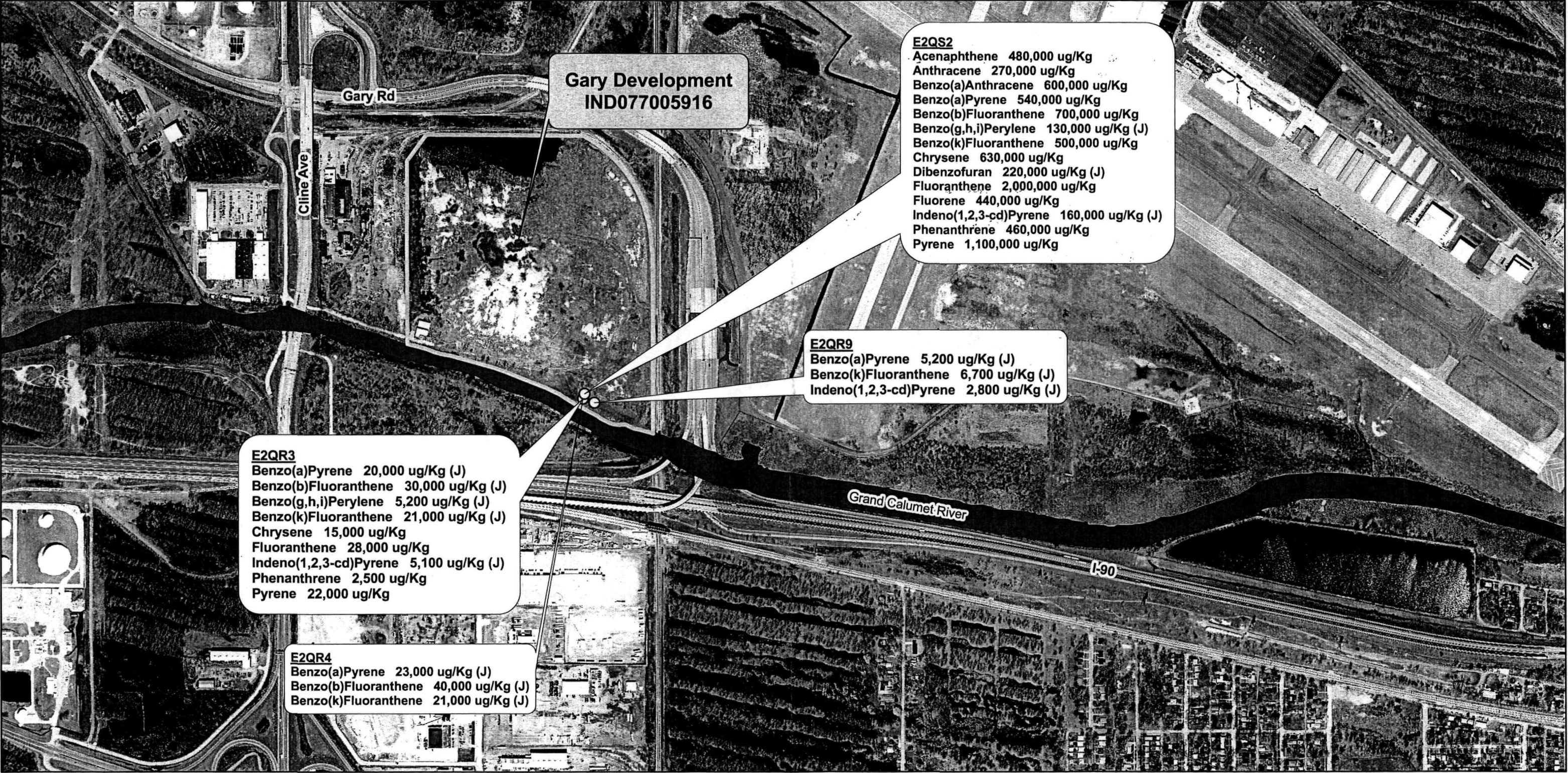


- Pesticides - Key Findings Sample Point
- Approximate Site Boundary
- Grand Calumet River





SVOCs Key Findings Map, Gary Development Landfill  
Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



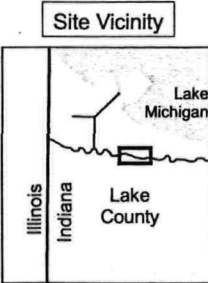
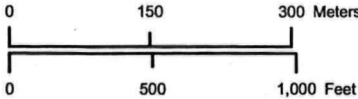
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- Sediment samples collected May 5, 2009  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/17/2009

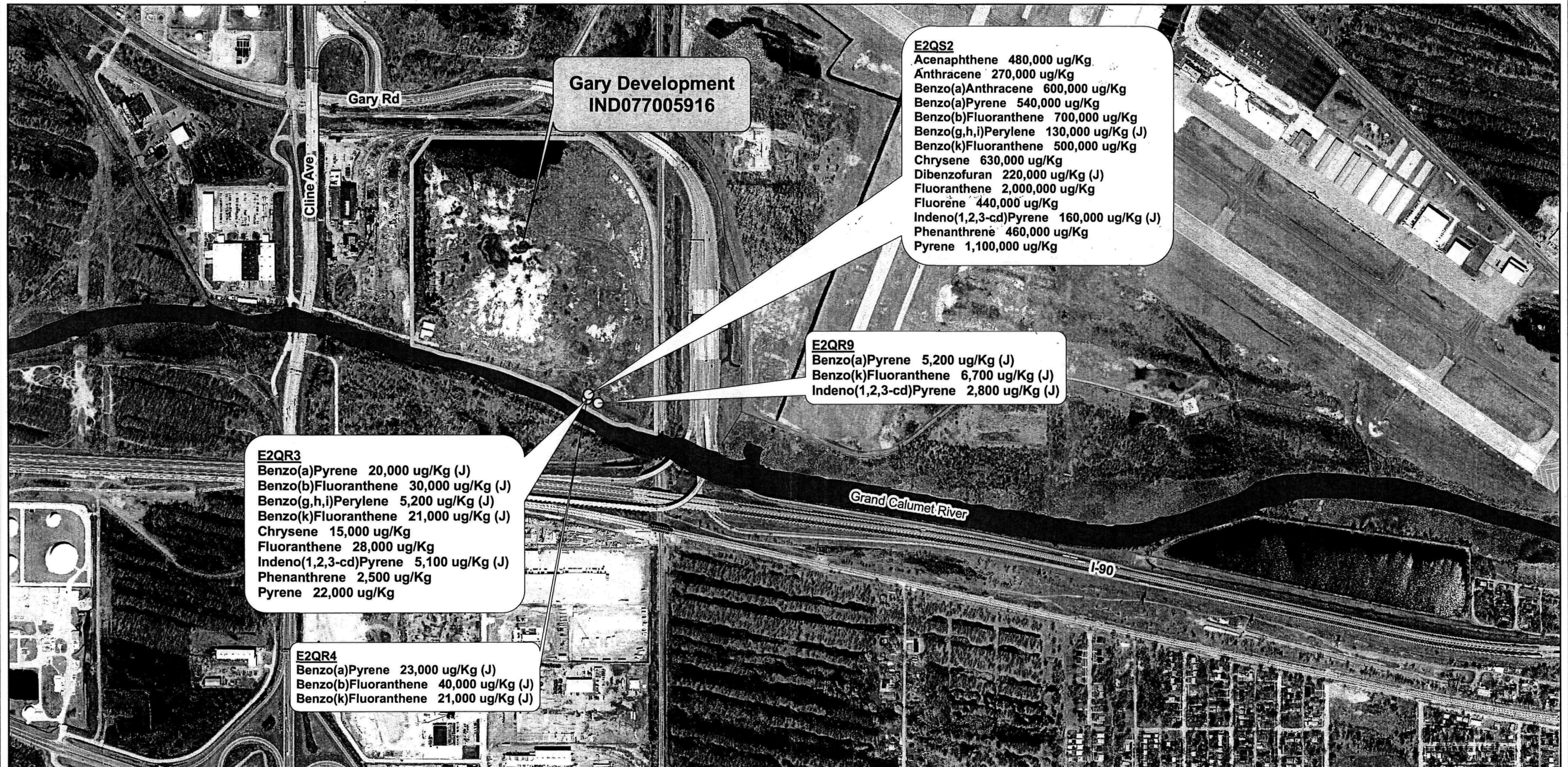


- SVOCs - Key Findings Sample Point
- Approximate Site Boundary
- Grand Calumet River





# SVOCs Key Findings Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



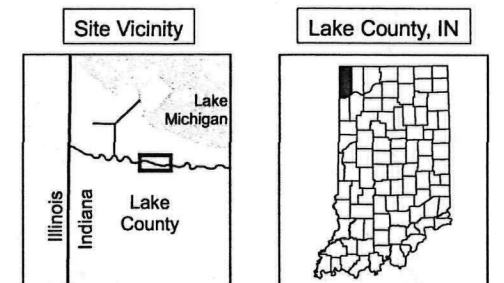
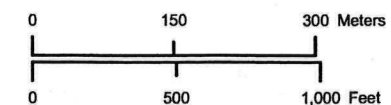
A number of the sample results included in the Key Findings List are qualified with a "J" flag. This "J" flag is defined as: "The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample."

**Sources:**  
**Non Orthophotography Data**  
- Obtained from the State of Indiana Geographic Information Office Library  
- Sediment samples collected May 5, 2009  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/17/2009

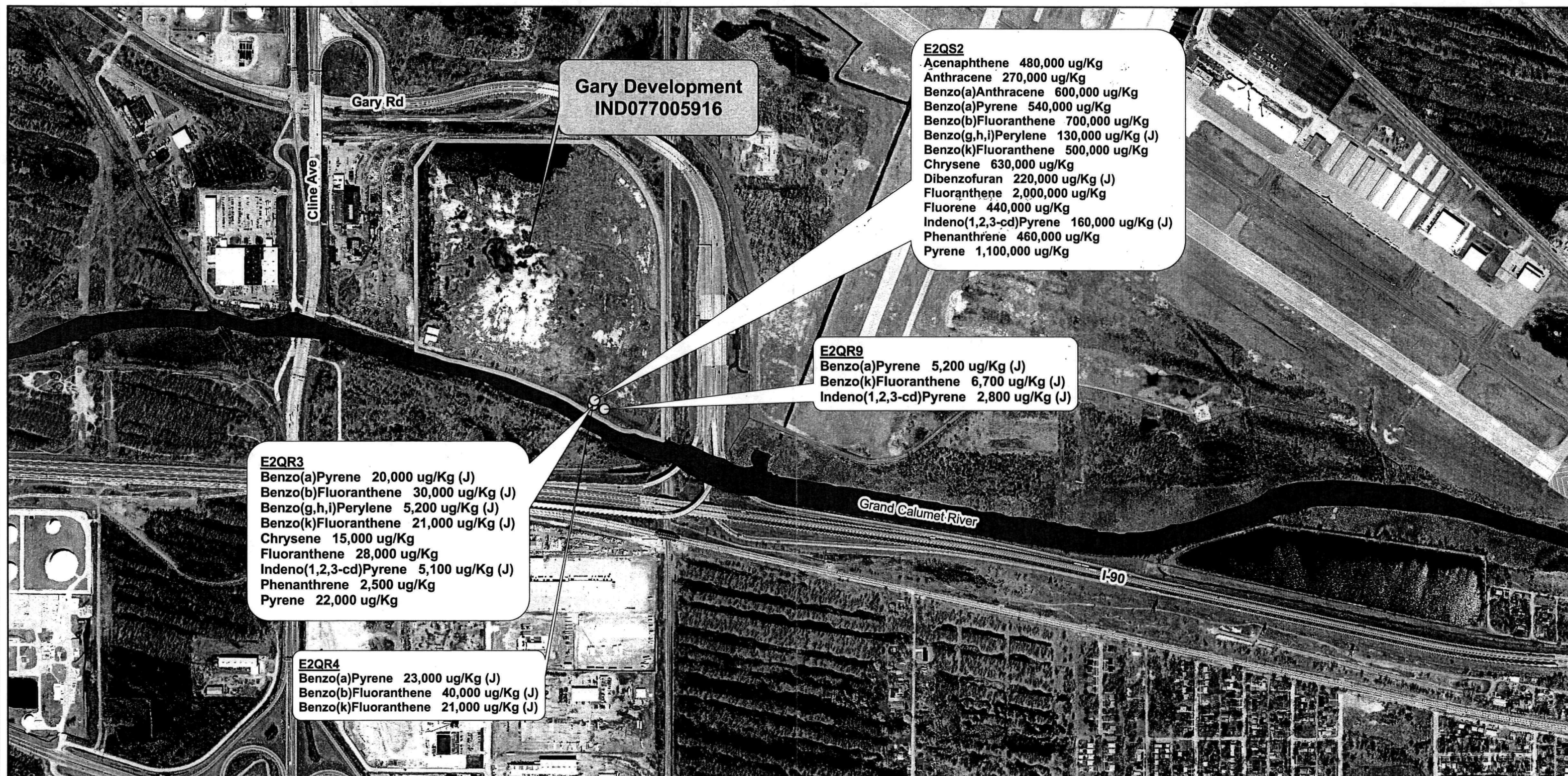


- SVOCs - Key Findings Sample Point
- Approximate Site Boundary
- Grand Calumet River





# SVOCs Key Findings Map, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



A number of the sample results included in the Key Findings List are qualified with a "J" flag. This "J" flag is defined as: "The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample."

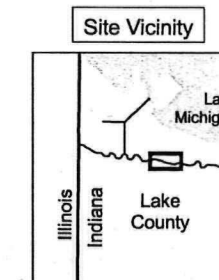
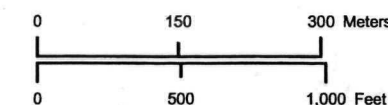
**Sources:**  
**Non Orthophotography Data**  
 - Obtained from the State of Indiana Geographic Information Office Library  
 - Sediment samples collected May 5, 2009  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/17/2009



- SVOCs - Key Findings Sample Point
- Approximate Site Boundary
- Grand Calumet River





Nearby Facilities, Gary Development Landfill - Gary, Lake County, Indiana



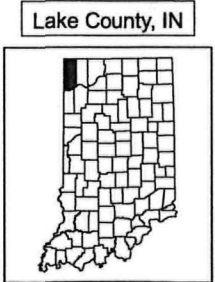
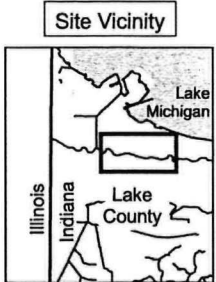
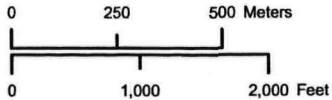
Sources:  
**Non Orthophotography Data**  
- Obtained from the State of Indiana Geographic Information Office Library  
- Existing EPA Sites (IDEM)  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 11/4/2009



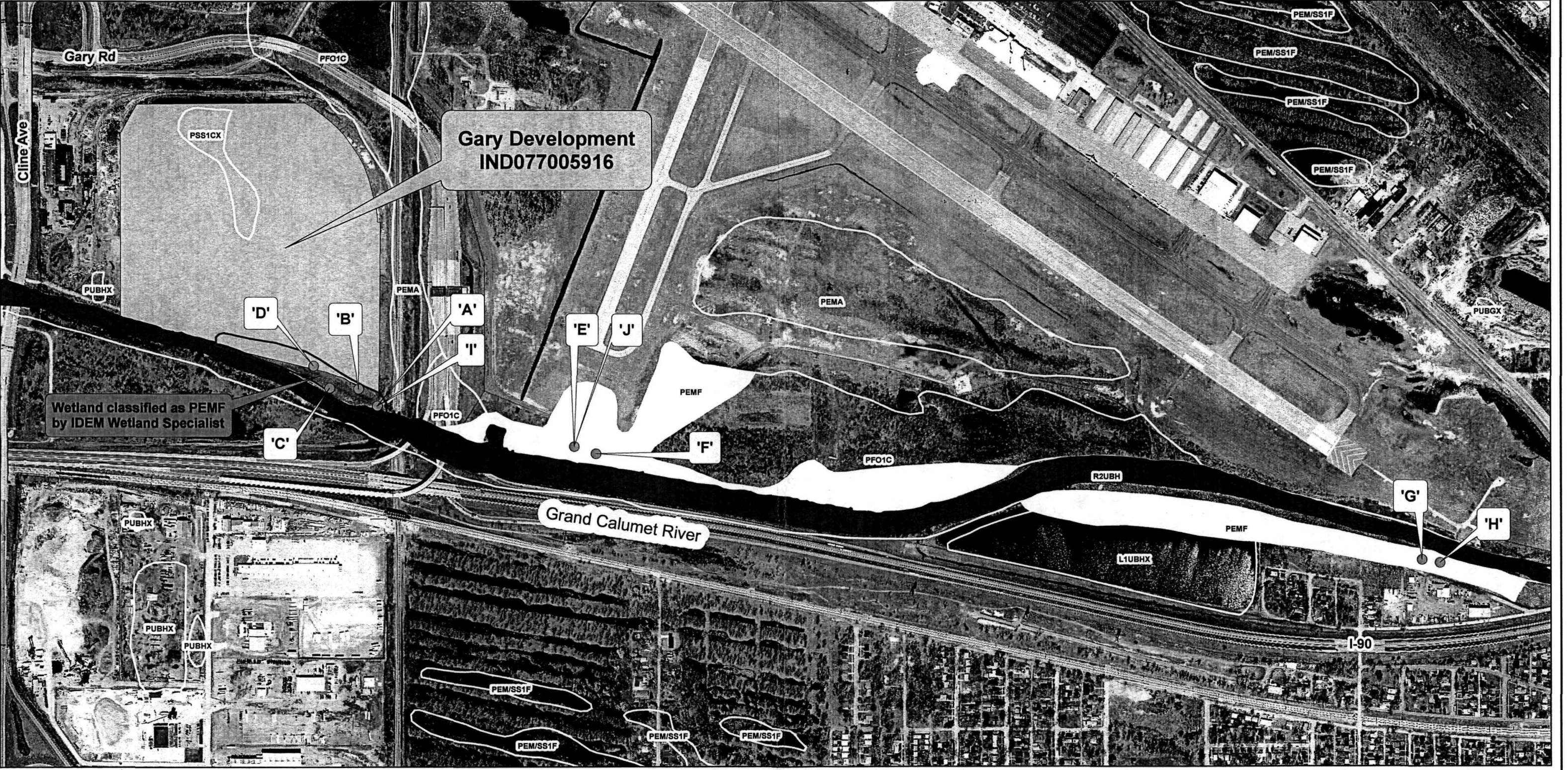
- IDEM Facilities
- Existing EPA Sites
- Grand Calumet River

DRAFT





Proposed Sample Locations, Gary Development Landfill  
Gary, Lake County, Indiana (NOT FOR PUBLIC RELEASE)

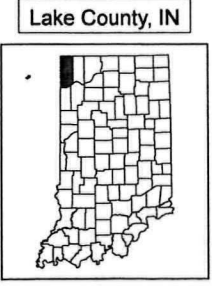
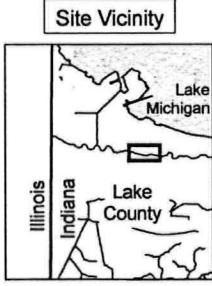
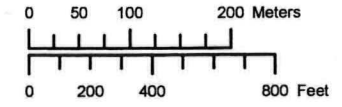


Sources:  
**Non Orthophotography Data**  
- Obtained from the State of Indiana Geographic Information Office Library  
- National Wetlands Inventory data obtained from U.S. Fish and Wildlife Service  
- Existing EPA Sites (IDEM)  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 4/20/2009

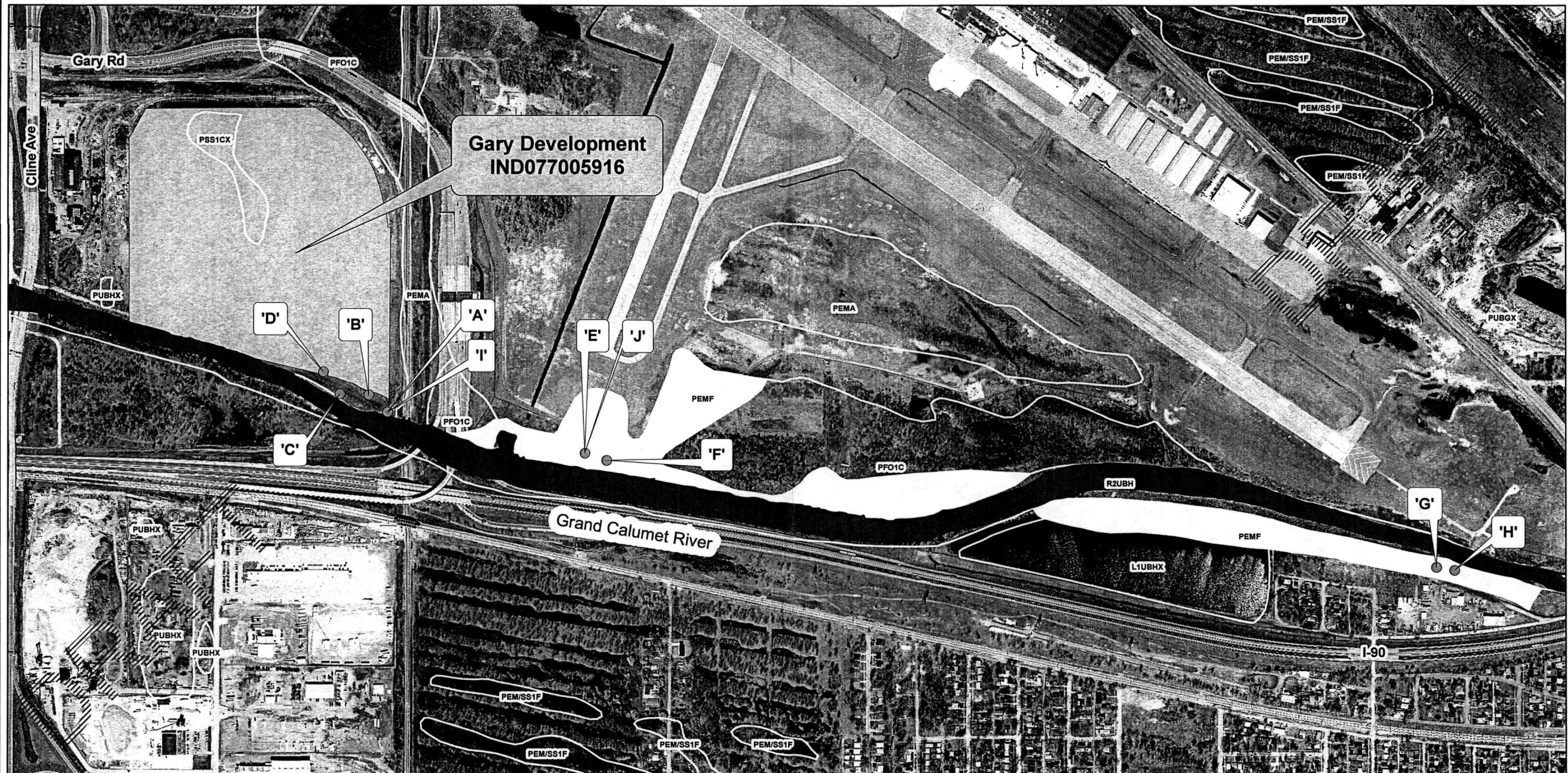


- Proposed Sample Locations (0" - 12")
- ▭ Wetland Classified PEMF
- ▭ Existing EPA Sites
- ▭ National Wetlands Inventory (USFWS)
- ▭ Wetlands Classified as PEMF (USFWS)
- ▬ Grand Calumet River





# Proposed Sample Locations, Gary Development Landfill Gary, Lake County, Indiana (NOT FOR PUBLIC RELEASE)



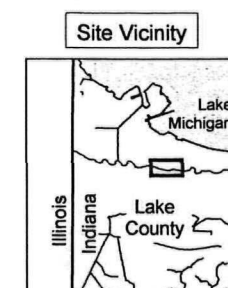
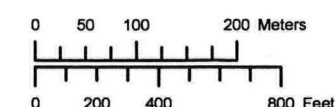
INTERNAL DELIBERATIVE COMMUNICATION - Not For Public Release (Protected internal Communication Under IC 5-14-3-4 (b)(6) Or Information Not Obtained Under Authority Of, Nor Required By, State Law)

**Sources:**  
**Non Orthophotography Data**  
 - Obtained from the State of Indiana Geographic Information Office Library  
 - National Wetlands Inventory data obtained from U.S. Fish and Wildlife Service  
 - Existing EPA Sites (IDEM)  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.  
**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 2/24/2009

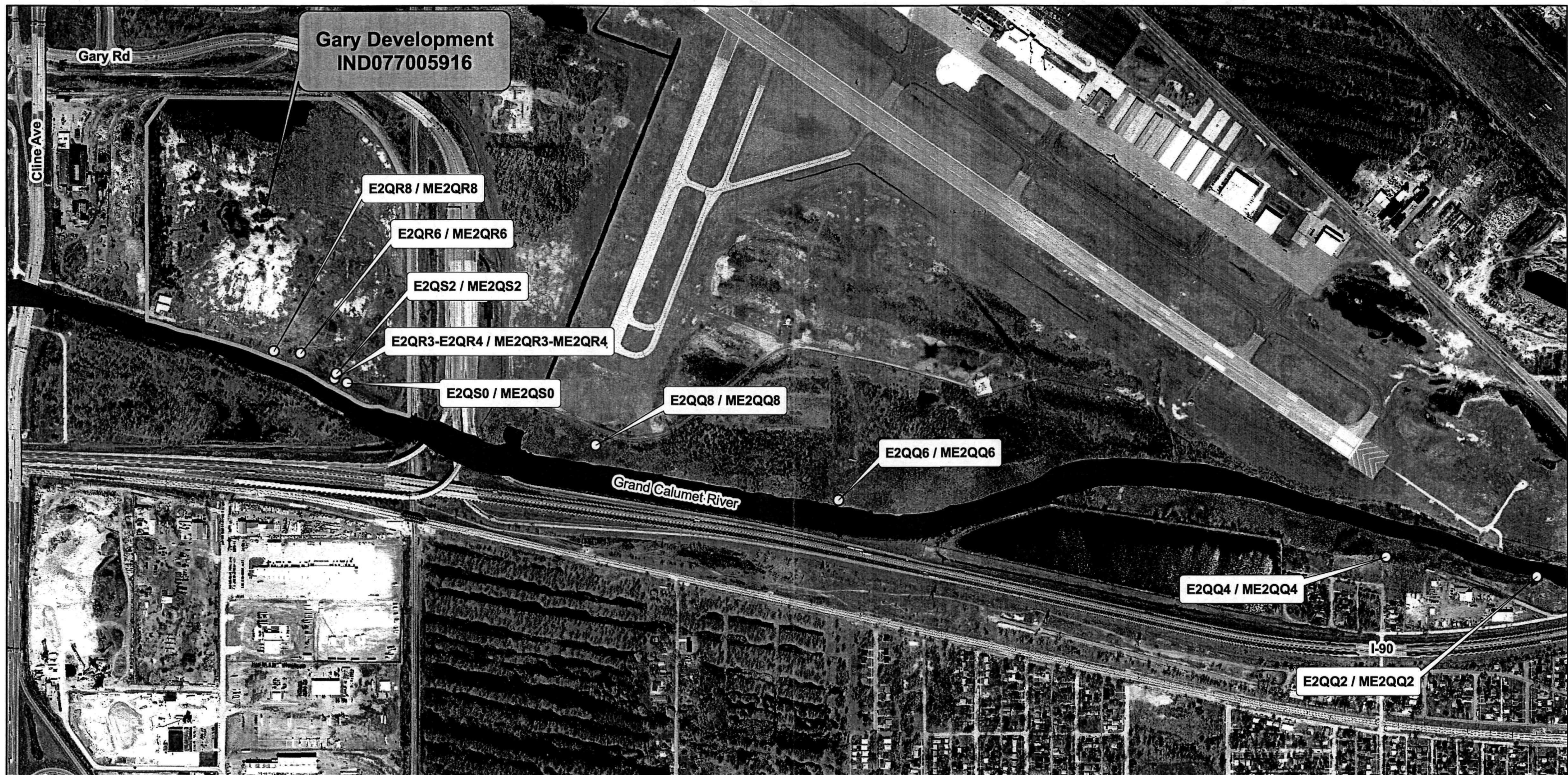


- Proposed Sample Locations (0" - 12")
- Existing EPA Sites
- National Wetlands Inventory (USFWS)
- Wetlands Classified as PEMF (USFWS)
- Grand Calumet River





# Deep Sediment Sample Locations, Gary Development Landfill Gary, Lake County, Indiana (U.S. EPA ID: IND077005916)



**Sources:**  
**Non Orthophotography Data**  
 - Obtained from the State of Indiana Geographic Information Office Library  
 - Sediment samples collected May 5, 2009  
**Orthophotography** - Obtained from IndianaMap Framework Data (www.indianamap.org)  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**Mapped By:** Mike Hill, Office of Land Quality  
**Date:** 9/30/2009



- Deep Sample Locations with Sample Numbers
- Approximate Site Boundary
- Grand Calumet River

